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***** Welcome to STN International *****

NEWS	1		Web Page for STN Seminar Schedule - N. America
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NEWS	22	JAN 28	MEDLINE and LMEDLINE reloaded with enhancements
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NEWS	25	FEB 25	IFIREF reloaded with enhancements
NEWS	26	FEB 25	IMSPRODUCT reloaded with enhancements
NEWS	27	FEB 29	WPINDEX/WPIDS/WPIX enhanced with ECLA and current U.S. National Patent Classification
NEWS EXPRESS	FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3, AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008		
NEWS HOURS	STN Operating Hours Plus Help Desk Availability		
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* * * * * STN Columbus * * * * *

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```
=> file medline caplus embase biotechno biosis scisearch
COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                    ENTRY        SESSION
FULL ESTIMATED COST                                0.42           0.42
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FILE 'CAPLUS' ENTERED AT 15:07:35 ON 27 MAR 2008
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FILE 'BIOTECHNO' ENTERED AT 15:07:35 ON 27 MAR 2008
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FILE 'BIOSIS' ENTERED AT 15:07:35 ON 27 MAR 2008
Copyright (c) 2008 The Thomson Corporation

FILE 'SCISEARCH' ENTERED AT 15:07:35 ON 27 MAR 2008
Copyright (c) 2008 The Thomson Corporation

```
=> s antisense library vector
L1      0 ANTISENSE LIBRARY VECTOR
```

```
=> s antisense library
L2      17 ANTISENSE LIBRARY
```

```
=> dup rem l2
PROCESSING COMPLETED FOR L2
L3      13 DUP REM L2 (4 DUPLICATES REMOVED)
```

```
=> d ti 1-13
```

L3 ANSWER 1 OF 13 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
TI Method for enrichment of natural antisense messenger RNA.

L3 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Homozygous gene inactivation using collections of pre-defined nucleotide
sequences complementary to chromosomal transcripts

L3 ANSWER 3 OF 13 MEDLINE on STN DUPLICATE 1
TI Gene knockdown by large circular antisense for high-throughput functional
genomics.

L3 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Method for enrichment and cDNA cloning of antisense mRNA found in natural
mRNA populations

L3 ANSWER 5 OF 13 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI Directed antisense libraries.

L3 ANSWER 6 OF 13 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
TI Method for enrichment of natural antisense messenger RNA.

L3 ANSWER 7 OF 13 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
TI Combinatorial antisense library.

L3 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Libraries of RNAs that can be prepared as large circular molecules and
their use in high throughput screening and functional genomics

L3 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Unigene unidirectional antisense library derived from
recombinant bacteriophage or phagemid vector for therapy and massive
functional genomics

L3 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Method for enrichment and cloning of natural antisense messenger RNA

L3 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Antisense nucleic acid libraries, including hammerhead ribozyme catalytic
core libraries, targeted to selected RNA transcripts

L3 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Construction of a combinatorial antisense library

L3 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
TI Shotgun antisense mutagenesis

=> d ab 12 11 5

L3 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
AB Combinatorial libraries comprise first oligonucleotide analogs and second
oligonucleotide analogs which are coupled together to form antisense mols.
capable of binding target polynucleotides and activating an RNase, and
ribozymes capable of cleaving polynucleotides. Thus, a preformed library
of oligonucleotide analogs is provided, comprising a set of first
oligonucleotide analogs and a set of second oligonucleotide analogs, the
analog having coupling moieties that provide for coupling each first
oligonucleotide analog to a second oligonucleotide analog to form an
antisense mol. The oligonucleotide analogs are selected to act, when
coupled, as a substrate for an endonuclease that recognizes
double-stranded RNA or RNA/DNA hybrids when hybridized to a target nucleic
acid. The binding domains need to be long enough to insure that the
antisense mol. binds to the target polynucleotide, and is able to recruit
and/or activate a nuclease. However, the number of mols. required for a
complete library exponentially with length of the sequence represented.
By conceptually separating the antisense mols. into two or more pieces, a
comprehensive antisense library can be prepared in
advance, rather than synthesizing a plurality of candidate antisense mols.
as needed. The size of the library needed is reduced by (1) providing the
antisense mols. in at least two components, by substituting one or more
universal or degenerate bases for some of the natural bases, and (3) by
avoiding certain sequences which are predicted to serve as poor antisense
mols. by reason of poor binding ability. Chemical syntheses are described
for cleaver and/or anchor synthesis-hybridization motifs, and the
invention is exemplified by the preparation of oligonucleotides targeted to
protein kinase Ca or human Bcl-2.

L3 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

AB A method for making a directed antisense library against a target transcript is described. A cDNA of the target transcript is cloned in an appropriate cloning vector. Next, a plurality of deletion derivs. of the cloned cDNA is prepared such that the deletions serially extend into the cDNA from one end thereof. The resulting deletion library is then treated such that cDNA is removed from the other end of each cDNA insert, thus obtaining a fragment library having fragments of a selected size. An antisense gene is then inserted into each fragment of the fragment library, resulting in the directed antisense library. An illustrative antisense gene in the hammerhead ribozyme catalytic core is described. Plasmids for making the antisense library, plasmids and methods for making the fragment library, and a method for identifying target sites for antisense-mediated gene inhibition are also described.

L3 ANSWER 5 OF 13 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AB A method for making a directed antisense library against a target transcript is described. A cDNA of the target transcript is cloned in an appropriate cloning vector. Next, a plurality of deletion derivatives of the cloned cDNA is prepared such that the deletions serially extend into the cDNA from one end thereof. The resulting deletion library is then treated such that cDNA is removed from the other end of each cDNA insert, thus obtaining a fragment library having fragments of a selected size. A catalytic core is then inserted into each fragment of the fragment library, resulting in the directed antisense library. An illustrative antisense gene in the hammerhead ribozyme catalytic core. Plasmids for making the antisense library, plasmids and methods for making the fragment library, and a method for identifying target sites for antisense-mediated gene inhibition are also described.

=> s antisense and vector and screen

L4 107 ANTISENSE AND VECTOR AND SCREEN

=> dup rem l4

PROCESSING COMPLETED FOR L4

L5 64 DUP REM L4 (43 DUPLICATES REMOVED)

=> d ti 1-64

L5 ANSWER 1 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN

TI Substance inhibiting the expression of HB24 or the transcriptional regulatory activity thereof, use of the same and method of screening the substance

L5 ANSWER 2 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI Bi-directionally cloned random cDNA expression vector libraries, compositions and methods of use.

L5 ANSWER 3 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI Antibodies to a cathepsin C homolog.

L5 ANSWER 4 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

TI Transfer of citrus tristeza virus (CTV)-derived resistance candidate sequences to four grapefruit cultivars through Agrobacterium-mediated genetic transformation.

L5 ANSWER 5 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN

TI Introns from plant genes improving levels of expression of genes carrying them and their use in expression constructs for plants

L5 ANSWER 6 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Development of the methods to repress the expression or activities of serine/threonine kinase Pim-1 and the application to cancer therapy

L5 ANSWER 7 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Regulation of neuronal death by repressing the expression of amyloid β -binding death inducing protein associated and application to therapy and prevention of Alzheimer's disease

L5 ANSWER 8 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI Directionally cloned random cDNA expression vector libraries, compositions and methods of use.

L5 ANSWER 9 OF 64 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI A simple strategy for generation of gene knockdown constructs with convergent H1 and U6 promoters

L5 ANSWER 10 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Screening of sensitive antisense target in ODC mRNA

L5 ANSWER 11 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 1
 TI Adenovirus-Delivered Antisense RNA and shRNA Exhibit Different Silencing Efficiencies for the Endogenous Transforming Growth Factor- β (TGF- β) Type II Receptor

L5 ANSWER 12 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Protein and cDNA sequences of novel mammalian pain-associated PNPG1 genes and diagnostic and therapeutic use

L5 ANSWER 13 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI DNA cassette for cellular expression of small RNA

L5 ANSWER 14 OF 64 MEDLINE on STN DUPLICATE 2
 TI A novel E3 ubiquitin ligase TRAC-1 positively regulates T cell activation.

L5 ANSWER 15 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI Inhibition of flavivirus infections by antisense oligomers specifically suppressing viral translation and RNA replication.

L5 ANSWER 16 OF 64 MEDLINE on STN DUPLICATE 3
 TI A cellular screening assay to test the ability of PKR to induce cell death in mammalian cells.

L5 ANSWER 17 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI The screening of the sensitive antisense target in the ODC mRNA

L5 ANSWER 18 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 4
 TI Introducing antisense waxy gene into rice seeds reduces grain amylose contents using a safe transgenic technique

L5 ANSWER 19 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI MCAM (melanoma cell adhesion molecules) inhibitors, such as antibodies, and uses in diagnosis, and treatment of MCAM-dependent metastatic cancer, particularly sarcoma

L5 ANSWER 20 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI Directionally cloned random cDNA expression vector libraries, compositions and methods of use.

L5 ANSWER 21 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on
STN
TI An extracellular aspartic protease functions in Arabidopsis disease
resistance signaling.

L5 ANSWER 22 OF 64 MEDLINE on STN DUPLICATE 5
TI An approach to genomewide screens of expressed small interfering RNAs in
mammalian cells.

L5 ANSWER 23 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI The Wise and Sost genes involved in the regulation of bone development in
the vertebrate embryo and their use in modulating patterning in
development

L5 ANSWER 24 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Proteins stimulating STAT6 transcription factor-dependent expression of a
reporter gene and their uses

L5 ANSWER 25 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Fusion proteins comprising enzyme, intein, and detectable moiety domains
and their use in methods for normalizing enzymic assays

L5 ANSWER 26 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Polynucleotides and proteins of candidate tumor (multiple myeloma)
suppressor gene located on human chromosome 21q22, their sequences, and
biological and therapeutic uses

L5 ANSWER 27 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Inducers of osteogenesis identified in a high-throughput screen
detecting modulation of bone alkaline phosphatase activity, and their
therapeutic and diagnostic uses

L5 ANSWER 28 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Construction of bi-directionally cloned random cDNA expression
vector libraries, compositions and use for delivery of genetic
effector to host cells

L5 ANSWER 29 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Directionally cloned random cDNA expression vector libraries and
methods of their use

L5 ANSWER 30 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Adenoviral library assay for adipogenesis genes and methods and
compositions for screening compounds

L5 ANSWER 31 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on
STN
TI Screens for small noncoding RNAs encoded by the E. coli genome.

L5 ANSWER 32 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 6
TI Method of compiling a functional gene profile in a plant using plant RNA
viruses to deliver antisense RNA for transient gene inactivation

L5 ANSWER 33 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Improved conditionally replicating lentivirus vectors inhibiting wild-type
virus replication and their therapeutic uses

L5 ANSWER 34 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
TI Virus induced gene silencing in monocotyledonous plants and vectors for
silencing and the expression of foreign genes in the silenced plant

L5 ANSWER 35 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN

TI Transgenic Drosophila models using human ataxin-1 with expanded polyglutamine repeats and methods for the identification and treatment of neurodegenerative disorders
 L5 ANSWER 36 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Improving plant resistance to viruses by expression of viral coat protein and replicase genes
 L5 ANSWER 37 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Non-infective viral vectors for therapeutic use that can block replication of wild-type virus
 L5 ANSWER 38 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Genetic screening methods for identifying molecules, including drugs, having a gene-specific synthetic lethal property in the mammalian cell
 L5 ANSWER 39 OF 64 MEDLINE on STN DUPLICATE 7
 TI Identification of STAT-1 as a molecular target of IGFBP-3 in the process of chondrogenesis.
 L5 ANSWER 40 OF 64 MEDLINE on STN DUPLICATE 8
 TI Expression of functional mammalian P450 2E1 in hairy root cultures.
 L5 ANSWER 41 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Novel microbial fatty acid elongase genes and methods for producing polyunsaturated fatty acids
 L5 ANSWER 42 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Genetic screening methods for identifying molecules having gene-specific lethal property in the cell
 L5 ANSWER 43 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI APETALA1 and SEPALLATA3 interact to promote flower development.
 L5 ANSWER 44 OF 64 MEDLINE on STN
 TI An in vivo study of novel bioactive peptides that inhibit the growth of Escherichia coli.
 L5 ANSWER 45 OF 64 MEDLINE on STN DUPLICATE 9
 TI Effects of chemopreventive and antitelomerase agents on the spontaneous immortalization of breast epithelial cells.
 L5 ANSWER 46 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Genes identified as required for proliferation in Escherichia coli
 L5 ANSWER 47 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Novel inhibitor of nuclear factor- κ B, RelA-associated inhibitor, recombinant expression, and use in disease diagnosis
 L5 ANSWER 48 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI An induction gene trap for identifying a homeoprotein-regulated locus.
 L5 ANSWER 49 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI Isolation of GAE6-3A 5'-upstream fragment from Gossypium arboreum and its expression in tobacco.
 L5 ANSWER 50 OF 64 MEDLINE on STN DUPLICATE 10
 TI Safety evaluation of Ad-ASmyc in vitro and in vivo.

L5 ANSWER 51 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Function-based gene discovery using unique oligonucleotide-tagged bar-coded vectors for clone tracking and automation in cDNA library screening

L5 ANSWER 52 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Flowering locus t (ft) and genetically modified plants having modulated flower development with applications for crop plants

L5 ANSWER 53 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Conditionally replicating viral vectors and their use in vaccines, viral infection treatment, or cancer therapy

L5 ANSWER 54 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI Resistance of transgenic potato expressing intergenic sequence of Potato Leafroll Virus.

L5 ANSWER 55 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Transgenic animals and cell lines for screening drugs effective for the treatment or prevention of Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas

L5 ANSWER 56 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Cloning and expression of genes in replication factor-producing cells containing replication factor-requiring expression vectors

L5 ANSWER 57 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Molecular cloning and expression of cDNA encoding human 3'-phosphoadenylylsulfate:galactosylceramide 3'-sulfotransferase

L5 ANSWER 58 OF 64 MEDLINE on STN DUPLICATE 11
 TI The E protein CTF4 and acetylcholine receptor expression in development and denervation supersensitivity.

L5 ANSWER 59 OF 64 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN DUPLICATE 12
 TI In vivo imaging of oligonucleotides with positron emission tomography.

L5 ANSWER 60 OF 64 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI The expression of 14-3-3 isoforms in potato is developmentally regulated.

L5 ANSWER 61 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Conditionally replicating viral vectors and their use in vaccines, viral infection treatment, or cancer therapy

L5 ANSWER 62 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN
 TI An acetyl CoA carboxylase cDNA from maize and its use in the preparation of herbicide-resistant plants and altering patterns of fatty acid synthesis

L5 ANSWER 63 OF 64 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on STN
 TI Gene trapping in differentiating cell lines: Regulation of the lysosomal protease cathepsin B in skeletal myoblast growth and fusion

L5 ANSWER 64 OF 64 MEDLINE on STN DUPLICATE 13
 TI Irreversible repression of DNA synthesis in Fanconi anemia cells is alleviated by the product of a novel cyclin-related gene.

=> d ab 55 38

L5 ANSWER 55 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN

AB Transgenic animals and transfected cell lines expressing AD7C-NTP are created. AD7C-NTP is a protein associated with Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Such transgenic animals and transfected cell lines are used to screen potential drug candidates for treating or preventing Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. Antisense oligonucleotides, ribozymes, triplex-forming DNA, and external guide sequences based on the AD7C-NTP cDNA sequence can be used to treat or prevent Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas. AD7C-NTP cDNA was ligated into pcDNA3 mammalian expression vector containing a CMV promoter. SH-Sy5y neuronal cells were transfected with pcDNA3-AD7C-NTP. The cells overexpressed AD7C-NTP, which lead to apoptosis and neuritic sprouting characteristic of Alzheimer's disease. In cell lines overexpressing AD7C-NTP, in vitro drug screening involves subjecting the cells to drugs and measuring AD7C-NTP production with immunoassay.

L5 ANSWER 38 OF 64 CAPLUS COPYRIGHT 2008 ACS on STN

AB This invention provides a screening method useful in identifying mols. having gene-specific cell-lethal properties. A further object of the present invention is to provide a screening method useful in isolating genes and identifying unknown functions of genes or unknown functional links between genes. A method for screening mol. which have a synthetic lethal property when in combination with a gene of interest carrying a non-lethal mutation in mammalian cells is described. The method comprising the steps of: transfecting a first reporter gene into mammalian cells having a genome comprising a gene of interest which carries a non-lethal mutation, or a genome which is null of said gene of interest; selecting clones stably expressing said first reporter gene; introducing into said cells a survival plasmid comprising a functioning copy of said gene of interest, a second reporter gene, selectable marker, an origin of DNA replication and a nuclear antigen gene essential for replication of the plasmid within said cells, wherein said survival plasmid is autonomously replicating and spontaneously lost from said cells; growing said cells in the presence of a selection compound which selects for said selectable marker; selecting cell clones stably expressing said second reporter gene and said functioning copy of said gene of interest; removing selection for the selectable marker, and adding mols. destined for screening of their ability to impose selective pressure enforcing retention of the unstable survival plasmid, determining survival plasmid retention in cells, thus identifying a mol. having a synthetic lethal property when in combination with non lethal mutated gene of interest. The method may be used to screen either a chemical library in order to identify a mol. having a gene-specific lethal property in the cells, or to screen a group of DNA mols. in order to identify among them one or more modulators of gene function which are synergistically lethal to the cells together with an incapacitated gene of interest. In another embodiment there is provided a method for screening a drug (this is a private case of a mol. or a chemical reagent) which have a synthetic lethal property when in combination with a gene of interest carrying a non-lethal mutation. Also described are episomal survival plasmids and kits which may be used with the method.

=>

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NEWS	26	FEB 25	IMSPRODUCT reloaded with enhancements
NEWS	27	FEB 29	WPIXINDEX/WPIXIDS/WPIX enhanced with ECLA and current U.S. National Patent Classification

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 15:46:51 ON 27 MAR 2008

=> file medline caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'MEDLINE' ENTERED AT 15:47:11 ON 27 MAR 2008

FILE 'CAPLUS' ENTERED AT 15:47:11 ON 27 MAR 2008

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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=> s ribozyme library

L1 75 RIBOZYME LIBRARY

=> dup rem l1

PROCESSING COMPLETED FOR L1

L2 56 DUP REM L1 (19 DUPLICATES REMOVED)

=> d l-56 ti

L2 ANSWER 1 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Ribozyme suppressing the expression of proteins related to apoptosis of human hepatic stellate cells

L2 ANSWER 2 OF 56 MEDLINE on STN

DUPLICATE 1

TI Hammerhead ribozyme-based target discovery.

L2 ANSWER 3 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Screening for genes involved in apoptosis of hepatic stellate cells: a role of caspase-7

L2 ANSWER 4 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Identifying accessible sites in RNA: the first step in designing antisense reagents

L2 ANSWER 5 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Preparation of non-random ribozyme library and DNazyme library for gene function analysis

L2 ANSWER 6 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Re-engineering of carcinoembryonic antigen RNA with the group I intron of Tetrahymena thermophila by targeted trans-splicing

L2 ANSWER 7 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Use of combinatorial ribozyme libraries for determining the function of target genes

L2 ANSWER 8 OF 56 MEDLINE on STN

DUPLICATE 2

TI Use of a randomized hybrid ribozyme library for identification of genes involved in muscle differentiation.

L2 ANSWER 9 OF 56 MEDLINE on STN

DUPLICATE 3

TI Identification of metastasis-related genes in a mouse model using a library of randomized ribozymes.

L2 ANSWER 10 OF 56 MEDLINE on STN DUPLICATE 4
 TI Identification of cellular cofactors for human immunodeficiency virus replication via a ribozyme-based genomics approach.

L2 ANSWER 11 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Rapid gene validation with randomized ribozyme libraries

L2 ANSWER 12 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Development of target gene identification method for molecular-targeted therapy by hybrid-ribozyme libraries

L2 ANSWER 13 OF 56 MEDLINE on STN DUPLICATE 5
 TI An RNA-dependent protein kinase is involved in tunicamycin-induced apoptosis and Alzheimer's disease.

L2 ANSWER 14 OF 56 MEDLINE on STN DUPLICATE 6
 TI LIM kinase-2 targeting as a possible anti-metastasis therapy.

L2 ANSWER 15 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Functional gene discovery using hybrid ribozyme libraries

L2 ANSWER 16 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Identification of a cellular protein required for hepatitis C virus internal ribosome entry site (IRES)-mediated translation

L2 ANSWER 17 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Nucleotide fragments for proteins associated with TNF- α induced apoptosis and their uses

L2 ANSWER 18 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Nucleotide fragments for proteins associated with Fas-mediated apoptosis and their uses

L2 ANSWER 19 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Identification of genes involved in cell invasion by using a library of randomized hybrid ribozymes

L2 ANSWER 20 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI In vivo gene discovery system with libraries of randomized ribozymes

L2 ANSWER 21 OF 56 MEDLINE on STN DUPLICATE 7
 TI Identification of the most accessible sites to ribozymes on the hepatitis C virus internal ribosome entry site.

L2 ANSWER 22 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Gene discovery system with randomized ribozyme libraries

L2 ANSWER 23 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Replacement of thymidine phosphorylase RNA with group I intron of Tetrahymena thermophila by targeted trans-splicing

L2 ANSWER 24 OF 56 MEDLINE on STN DUPLICATE 8
 TI Use of a ribozyme library for validation of gene functions and cellular pathways.

L2 ANSWER 25 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI A Ribozyme with Michaelase Activity: Synthesis of the Substrate Precursors

L2 ANSWER 26 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI High-throughput screening of functional genes by the randomized ribozyme libraries

L2 ANSWER 27 OF 56 MEDLINE on STN DUPLICATE 9
 TI Rapid identification of efficient target cleavage sites using a hammerhead ribozyme library in an iterative manner.

L2 ANSWER 28 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Cancer research and gene therapy by RNA engineering

L2 ANSWER 29 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Ribozymes and antisense oligonucleotides for the inhibition of gene expression by calcium-activated chloride channel-1 gene CLCA-1

L2 ANSWER 30 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Development and comparison of procedures for the selection of delta ribozyme cleavage sites within the hepatitis B virus

L2 ANSWER 31 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI A functional gene discovery in the Fas-mediated pathway to apoptosis by analysis of transiently expressed randomized hybrid-ribozyme libraries

L2 ANSWER 32 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Inverse Genomics: application of ribozyme technology to high-throughput gene discovery

L2 ANSWER 33 OF 56 MEDLINE on STN DUPLICATE 10
 TI Identification of genes that function in the TNF-alpha-mediated apoptotic pathway using randomized hybrid ribozyme libraries.

L2 ANSWER 34 OF 56 MEDLINE on STN DUPLICATE 11
 TI A functional gene discovery in cell differentiation by hybrid ribozyme and siRNA libraries.

L2 ANSWER 35 OF 56 MEDLINE on STN DUPLICATE 12
 TI Optimization of trans-splicing ribozyme efficiency and specificity by in vivo genetic selection.

L2 ANSWER 36 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Identification of a caspase 3-independent role of pro-apoptotic factor Bak in TNF- α -induced apoptosis

L2 ANSWER 37 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Cellular regulatory genes that support the replication of infectious agents, and ribozymes that target such cellular regulatory genes, and methods of use

L2 ANSWER 38 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Method for target site selection and discovery by selection with a catalytic nucleic acid library

L2 ANSWER 39 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Development of a novel functional gene discovery system by hybrid-ribozyme libraries in the post genome era

L2 ANSWER 40 OF 56 MEDLINE on STN DUPLICATE 13
 TI Identification of Id4 as a regulator of BRCA1 expression by using a ribozyme-library-based inverse genomics approach.

L2 ANSWER 41 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Substantially complete ribozyme libraries and vectors for their expression and selection for phenotypic effects

L2 ANSWER 42 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Method for constructing a ribozyme library for use in identifying and switching off genes in the case of illness

L2 ANSWER 43 OF 56 MEDLINE on STN DUPLICATE 14

TI Identification of eIF2Bgamma and eIF2gamma as cofactors of hepatitis C virus internal ribosome entry site-mediated translation using a functional genomics approach.

L2 ANSWER 44 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI A novel functional genomics approach identifies mTERT as a suppressor of fibroblast transformation

L2 ANSWER 45 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Identification and validation of a gene involved in anchorage-independent cell growth control using a library of randomized hairpin ribozymes

L2 ANSWER 46 OF 56 MEDLINE on STN DUPLICATE 15

TI Enhancing RNA repair efficiency by combining trans-splicing ribozymes that recognize different accessible sites on a target RNA.

L2 ANSWER 47 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Antisense nucleic acid libraries, including hammerhead ribozyme catalytic core libraries, targeted to selected RNA transcripts

L2 ANSWER 48 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Use of combinatorial ribozyme libraries for determining the function of target genes

L2 ANSWER 49 OF 56 MEDLINE on STN DUPLICATE 16

TI Combinatorial screening and intracellular antiviral activity of hairpin ribozymes directed against hepatitis B virus.

L2 ANSWER 50 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Gene functional analysis and discovery using randomized or target-specific ribozyme gene vector libraries

L2 ANSWER 51 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Enzymic preparation of ribozyme library or antisense RNA library in absence of templates and primers

L2 ANSWER 52 OF 56 MEDLINE on STN DUPLICATE 17

TI Construction of a directed hammerhead ribozyme library : towards the identification of optimal target sites for antisense-mediated gene inhibition.

L2 ANSWER 53 OF 56 MEDLINE on STN DUPLICATE 18

TI Elimination of hepatitis C virus RNA in infected human hepatocytes by adenovirus-mediated expression of ribozymes.

L2 ANSWER 54 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Construction of a ribozyme library for use in the inhibition of expression of targetted genes

L2 ANSWER 55 OF 56 MEDLINE on STN DUPLICATE 19

TI Identification of ribozymes within a ribozyme library that efficiently cleave a long substrate RNA.

L2 ANSWER 56 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN

TI Selection of efficient cleavage sites in target RNAs by using a ribozyme expression library

=> d 49 55 51 50 ab

L2 ANSWER 49 OF 56 MEDLINE on STN DUPLICATE 16
AB A combinatorial screening method has been used to identify hairpin ribozymes that inhibit hepatitis B virus (HBV) replication in transfected human hepatocellular carcinoma (HCC) cells. A hairpin ribozyme library (5 x 10(5) variants) containing a randomized substrate-binding domain was used to identify accessible target sites within 3.3 kb of full-length in vitro-transcribed HBV pregenomic RNA. Forty potential target sites were found within the HBV pregenomic RNA, and 17 sites conserved in all four subtypes of HBV were chosen for intracellular inhibition experiments. Polymerase II and III promoter expression constructs for corresponding hairpin ribozymes were generated and cotransfected into HCC cells together with a replication-competent dimer of HBV DNA. Four ribozymes inhibited HBV replication by 80, 69, 66, and 49%, respectively, while catalytically inactive mutant forms of these ribozymes affected HBV replication by 36, 28, 0, and 0%. These findings indicate that the inhibitory effects on HBV replication were largely mediated by the catalytic activity of the ribozymes. In conclusion, we have identified catalytically active RNAs by combinatorial screening that mediate intracellular antiviral effects on HBV.

L2 ANSWER 55 OF 56 MEDLINE on STN DUPLICATE 19
AB Positions 2-6 of the substrate-binding internal guide sequence (IGS) of the L-21 Sca I form of the Tetrahymena thermophila intron were mutagenized to produce a GN5 IGS library. Ribozymes within the GN5 library capable of efficient cleavage of an 818-nt human immunodeficiency virus type 1 vif-vpr RNA, at 37 degrees C, were identified by ribozyme-catalyzed guanosine addition to the 3' cleavage product. Three ribozymes (IGS = GGGGCU, GGCUCU, and GUGGCU) within the GN5 library that actively cleaved the long substrate were characterized kinetically and compared to the wild-type ribozyme (GGAGGG) and two control ribozymes (GGAGUC and GGAGAU). The two control ribozymes have specific sites within the long substrate, but were not identified during screening of the library. Under single-turnover conditions, ribozymes GGGGCU, GGCUCU, and GUGGCU cleaved the 818-nt substrate 4- to 200-fold faster than control ribozymes. Short cognate substrates, which should be structureless and therefore accessible to ribozyme binding, were cleaved at similar rates by all ribozymes except GGGGCU, which showed a fourfold rate enhancement. The rate of cleavage of long relative to short substrate under single-turnover conditions suggests that GGCUCU and GUGGCU were identified because of accessibility to their specific cleavage sites within the long substrate (substrate-specific effects), whereas GGGGCU was identified because of an enhanced rate of substrate binding despite a less accessible site in the long substrate. Even though screening was performed with 100-fold excess substrate (relative to total ribozyme), the rate of multiple-turnover catalysis did not contribute to identification of trans-cleaving ribozymes in the GN5 library.

L2 ANSWER 51 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
AB Preparation of templates- and primers-independent RNA assembly (NT-RNA) by using thermostable DNA polymerase from Thermococcus or Thermus is described. The method is useful for the preparation of a ribozyme library or an antisense RNA library that can respond to the polymorphism of viral RNA. Preparation of a RNA assembly using thermostable RNA polymerase from Thermococcus litoralis or Thermus thermophilus, and assessment of the ribozyme activities of the RT-RNA to the RNA of HIV-1, HIV-2, and HCV (hepatitis C virus) were demonstrated.

L2 ANSWER 50 OF 56 CAPLUS COPYRIGHT 2008 ACS on STN
AB The present invention provides a hairpin ribozyme library having a randomized recognition sequence, packaged in a

vector and operably linked to a promoter suitable for high level expression in a wide variety of cells. The invention comprises using the library in a variety of selection protocols for identifying, isolating and characterizing known or unknown target RNAs, to reveal the phenotypic effects of such cleavage, and to identify the gene products that produce those phenotypic effects. The ribozyme may be expressed with a virus vector (e.g. adeno-associated virus vector). An example of the target RNA is encoded by the leptin gene.

```
=> logoff y
COST IN U.S. DOLLARS                SINCE FILE      TOTAL
                                     ENTRY      SESSION
FULL ESTIMATED COST                24.54      24.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)  SINCE FILE      TOTAL
                                               ENTRY      SESSION
CA SUBSCRIBER PRICE                  -1.60      -1.60
```

STN INTERNATIONAL LOGOFF AT 15:52:13 ON 27 MAR 2008

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptal805sxxm

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

***** Welcome to STN International *****

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NEWS 1          Web Page for STN Seminar Schedule - N. America
NEWS 2 JAN 02    STN pricing information for 2008 now available
NEWS 3 JAN 16    CAS patent coverage enhanced to include exemplified
                  prophetic substances
NEWS 4 JAN 28    USPATFULL, USPAT2, and USPATOLD enhanced with new
                  custom IPC display formats
NEWS 5 JAN 28    MARPAT searching enhanced
NEWS 6 JAN 28    USGENE now provides USPTO sequence data within 3 days
                  of publication
NEWS 7 JAN 28    TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 8 JAN 28    MEDLINE and LMEEDLINE reloaded with enhancements
NEWS 9 FEB 08    STN Express, Version 8.3, now available
NEWS 10 FEB 20   PCI now available as a replacement to DPCI
NEWS 11 FEB 25   IFIREF reloaded with enhancements
NEWS 12 FEB 25   IMSPRODUCT reloaded with enhancements
NEWS 13 FEB 29   WPINDEX/WPIDS/WPIX enhanced with ECLA and current
                  U.S. National Patent Classification
NEWS 14 MAR 31   IFICDB, IFIPAT, and IFIUDB enhanced with new custom
                  IPC display formats
NEWS 15 MAR 31   CAS REGISTRY enhanced with additional experimental
                  spectra
NEWS 16 MAR 31   CA/Caplus and CASREACT patent number format for U.S.
                  applications updated
NEWS 17 MAR 31   LPCI now available as a replacement to LDPCI
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NEWS 18 MAR 31 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 19 APR 04 STN AnaVist, Version 1, to be discontinued

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

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NEWS LOGIN Welcome Banner and News Items
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FILE 'HOME' ENTERED AT 09:55:38 ON 08 APR 2008

```
=> file medline
COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                               ENTRY        SESSION
FULL ESTIMATED COST          0.21          0.21
```

FILE 'MEDLINE' ENTERED AT 09:56:16 ON 08 APR 2008

FILE LAST UPDATED: 5 Apr 2008 (20080405/UP). FILE COVERS 1949 TO DATE.

MEDLINE has been updated with the National Library of Medicine's
revised 2008 MeSH terms. See HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

See HELP RANGE before carrying out any RANGE search.

```
=> two hybrid antisense
TWO IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).
```

```
=> s two hybrid antisense
    2276073 TWO
    66175 HYBRID
    26970 ANTISENSE
L1      0 TWO HYBRID ANTISENSE
        (TWO(W)HYBRID(W)ANTISENSE)
```

```
=> s two hybrid
    2276073 TWO
    66175 HYBRID
L2      12105 TWO HYBRID
        (TWO(W)HYBRID)
```

```
=> s l2 and antisense
    26970 ANTISENSE
L3      157 L2 AND ANTISENSE
```

=> s l2 and ribozyme
3278 RIBOZYME
L4 2 L2 AND RIBOZYME

=> s l3 and l4
L5 0 L3 AND L4

=> d l 2 l4

L4 ANSWER 1 OF 2 MEDLINE on STN
AN 2003213693 MEDLINE
DN PubMed ID: 12618015
TI Inverse Genomics as a powerful tool to identify novel targets for the treatment of neurodegenerative diseases.
AU Rhoades Kristina; Wong-Staal Flossie
CS Immusol Incorporated, 10790 Roselle Street, San Diego, CA 92121, USA. trhoades@immusol.com. <trhoades@immusol.com>
SO Mechanisms of ageing and development, (2003 Jan) Vol. 124, No. 1, pp. 125-32.
Journal code: 0347227. ISSN: 0047-6374.
CY Ireland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200310
ED Entered STN: 9 May 2003
Last Updated on STN: 31 Oct 2003
Entered Medline: 30 Oct 2003

L4 ANSWER 2 OF 2 MEDLINE on STN
AN 1998261467 MEDLINE
DN PubMed ID: 9596688
TI Molecular chaperone GRP94 binds to the Fanconi anemia group C protein and regulates its intracellular expression.
AU Hoshino T; Wang J; Devetten M P; Iwata N; Kajigaya S; Wise R J; Liu J M; Youssoufian H
CS Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX 77030, USA.
NC HL52138 (United States NHLBI)
P01 HL42443 (United States NHLBI)
SO Blood, (1998 Jun 1) Vol. 91, No. 11, pp. 4379-86.
Journal code: 7603509. ISSN: 0006-4971.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199806
ED Entered STN: 13 Jul 1998
Last Updated on STN: 3 Mar 2000
Entered Medline: 26 Jun 1998

=> d kwic l 2 l4

L4 ANSWER 1 OF 2 MEDLINE on STN
AB . . . assay was designed with C2-ceramide or TNFalpha as an induction signal for apoptosis. SK-N-MC cells were stably transduced with a ribozyme vector library, and then exposed to 20 microM C2-ceramide or 50 ng/ml TNFalpha to induce cell death. Surviving cells were. . .

their DNA isolated, and the ribozymes rescued by PCR for re-introduction into fresh cells. After several rounds of selection and ribozyme rescue we have identified individual ribozymes that protect neuronal cells from C2-ceramide induced apoptosis. Three of the cellular targets of these ribozyme sequence tags have been validated. Microarray analysis and yeast two-hybrid screens have also been used to gain insight into the pathways involved by identifying additional players involved in these pathways. . . .

CT . . . Nucleic Acid Conformation
Oligonucleotide Array Sequence Analysis
RNA, Catalytic: CH, chemistry
RNA, Catalytic: GE, genetics
RNA, Catalytic: TU, therapeutic use
Two-Hybrid System Techniques
CN 0 (RNA, Catalytic); 0 (hairpin ribozyme)

L4 ANSWER 2 OF 2 MEDLINE on STN
AB . . . at least three ubiquitous cytoplasmic proteins in vitro. We used here the complete coding sequence of FAC in a yeast two-hybrid screen to identify interacting proteins. The molecular chaperone GRP94 was isolated twice from a B-lymphocyte cDNA library. Binding was confirmed. . . with GRP94, and a natural splicing mutation within the IVS-4 of FAC that removes residues 111-148 failed to bind GRP94. Ribozyme-mediated inactivation of GRP94 in the rat NRK cell line led to significantly reduced levels of immunoreactive FAC and concomitant hypersensitivity. . .

=> d ti 1-50 13

L3 ANSWER 1 OF 157 MEDLINE on STN
TI The novel gene AngRem104 downregulates glucocorticoid receptor expression and activates NF-kappaB in human mesangial cells.

L3 ANSWER 2 OF 157 MEDLINE on STN
TI Identification and characterization of a novel neural cell adhesion molecule (NCAM)-associated protein from quail myoblasts: relationship to myotube formation and induction of neurite-like protrusions.

L3 ANSWER 3 OF 157 MEDLINE on STN
TI Deregulated expression of a novel component of TFII/STAGA histone acetyltransferase complexes, rat SGF29, in hepatocellular carcinoma: possible implication for the oncogenic potential of c-Myc.

L3 ANSWER 4 OF 157 MEDLINE on STN
TI CLIC4, skin homeostasis and cutaneous cancer: surprising connections.

L3 ANSWER 5 OF 157 MEDLINE on STN
TI Binding of pleomorphic adenoma gene-like 2 to the tumor necrosis factor (TNF)-alpha-responsive region of the NCF2 promoter regulates p67(phox) expression and NADPH oxidase activity.

L3 ANSWER 6 OF 157 MEDLINE on STN
TI Regulation of reactive oxygen species production by a 14-3-3 protein in elicited tobacco cells.

L3 ANSWER 7 OF 157 MEDLINE on STN
TI Interaction between FtsW and penicillin-binding protein 3 (PBP3) directs PBP3 to mid-cell, controls cell septation and mediates the formation of a trimeric complex involving FtsZ, FtsW and PBP3 in mycobacteria.

L3 ANSWER 8 OF 157 MEDLINE on STN

TI TOM22, a core component of the mitochondria outer membrane protein translocation pore, is a mitochondrial receptor for the proapoptotic protein Bax.

L3 ANSWER 9 OF 157 MEDLINE on STN

TI CIPC is a mammalian circadian clock protein without invertebrate homologues.

L3 ANSWER 10 OF 157 MEDLINE on STN

TI Metazoan Scc4 homologs link sister chromatid cohesion to cell and axon migration guidance.

L3 ANSWER 11 OF 157 MEDLINE on STN

TI Protein i: interference at protein level by intrabodies.

L3 ANSWER 12 OF 157 MEDLINE on STN

TI CHRD, a plant member of the evolutionarily conserved YjgF family, influences photosynthesis and chromoplastogenesis.

L3 ANSWER 13 OF 157 MEDLINE on STN

TI Gib2, a novel Gbeta-like/RACK1 homolog, functions as a Gbeta subunit in cAMP signaling and is essential in *Cryptococcus neoformans*.

L3 ANSWER 14 OF 157 MEDLINE on STN

TI Rescue of p53 blockage by the A(2A) adenosine receptor via a novel interacting protein, translin-associated protein X.

L3 ANSWER 15 OF 157 MEDLINE on STN

TI Rac3-induced neuritogenesis requires binding to Neurabin I.

L3 ANSWER 16 OF 157 MEDLINE on STN

TI WOX1 is essential for tumor necrosis factor-, UV light-, staurosporine-, and p53-mediated cell death, and its tyrosine 33-phosphorylated form binds and stabilizes serine 46-phosphorylated p53.

L3 ANSWER 17 OF 157 MEDLINE on STN

TI Jun activation domain-binding protein 1 is required for mitotic checkpoint activation via its involvement in hyperphosphorylation of 53BP1.

L3 ANSWER 18 OF 157 MEDLINE on STN

TI Suppression of progression and metastasis of established colon tumors in mice by intravenous delivery of short interfering RNA targeting KITENIN, a metastasis-enhancing protein.

L3 ANSWER 19 OF 157 MEDLINE on STN

TI Involvement of palladin and alpha-actinin in targeting of the Abl/Arg kinase adaptor ArgBP2 to the actin cytoskeleton.

L3 ANSWER 20 OF 157 MEDLINE on STN

TI Subcellular localization suggests novel functions for prolyl endopeptidase in protein secretion.

L3 ANSWER 21 OF 157 MEDLINE on STN

TI Src homology 3-domain growth factor receptor-bound 2-like (endophilin) interacting protein 1, a novel neuronal protein that regulates energy balance.

L3 ANSWER 22 OF 157 MEDLINE on STN

TI Role of the basic helix-loop-helix transcription factor, scleraxis, in the regulation of Sertoli cell function and differentiation.

L3 ANSWER 23 OF 157 MEDLINE on STN

TI IRIP, a new ischemia/reperfusion-inducible protein that participates in the regulation of transporter activity.

L3 ANSWER 24 OF 157 MEDLINE on STN

TI A gibberellin-regulated calcineurin B in rice localizes to the tonoplast and is implicated in vacuole function.

L3 ANSWER 25 OF 157 MEDLINE on STN

TI The binding activity of yeast RNAs to yeast Hek2p and mammalian hnRNP K proteins, determined using the three-hybrid system.

L3 ANSWER 26 OF 157 MEDLINE on STN

TI The Treacher Collins syndrome (TCOF1) gene product is involved in pre-rRNA methylation.

L3 ANSWER 27 OF 157 MEDLINE on STN

TI Cytoplasmic LEK1 is a regulator of microtubule function through its interaction with the LIS1 pathway.

L3 ANSWER 28 OF 157 MEDLINE on STN

TI Novel nuclear export signal-interacting protein, NESI, critical for the assembly of hepatitis delta virus.

L3 ANSWER 29 OF 157 MEDLINE on STN

TI Molecular analysis of a store-operated and 2-acetyl-sn-glycerol-sensitive non-selective cation channel. Heteromeric assembly of TRPC1-TRPC3.

L3 ANSWER 30 OF 157 MEDLINE on STN

TI Essential roles of Atg5 and FADD in autophagic cell death: dissection of autophagic cell death into vacuole formation and cell death.

L3 ANSWER 31 OF 157 MEDLINE on STN

TI A bZIP transcription factor from *Phytophthora* interacts with a protein kinase and is required for zoospore motility and plant infection.

L3 ANSWER 32 OF 157 MEDLINE on STN

TI Activity of hypoxia-inducible factor 2alpha is regulated by association with the NF-kappaB essential modulator.

L3 ANSWER 33 OF 157 MEDLINE on STN

TI Altered expression of an ankyrin-repeat protein results in leaf abnormalities, necrotic lesions, and the elaboration of a systemic signal.

L3 ANSWER 34 OF 157 MEDLINE on STN

TI dlk acts as a negative regulator of Notch1 activation through interactions with specific EGF-like repeats.

L3 ANSWER 35 OF 157 MEDLINE on STN

TI c-Src regulates clathrin adapter protein 2 interaction with beta-arrestin and the angiotensin II type 1 receptor during clathrin-mediated internalization.

L3 ANSWER 36 OF 157 MEDLINE on STN

TI Thioredoxin modulates activator protein 1 (AP-1) activity and p27Kip1 degradation through direct interaction with Jab1.

L3 ANSWER 37 OF 157 MEDLINE on STN

TI The homeodomain-containing transcription factor Xnfx-5.1 inhibits expression of the homeobox gene Xanf-1 during the *Xenopus laevis* forebrain development.

L3 ANSWER 38 OF 157 MEDLINE on STN

TI GIPC recruits GAIP (RGS19) to attenuate dopamine D2 receptor signaling.

L3 ANSWER 39 OF 157 MEDLINE on STN

TI The PDZ protein Tip-1 is a gain of function target of the HPV16 E6 oncoprotein.

L3 ANSWER 40 OF 157 MEDLINE on STN

TI Smooth muscle archvillin: a novel regulator of signaling and contractility in vascular smooth muscle.

L3 ANSWER 41 OF 157 MEDLINE on STN

TI The membrane form of the DNA repair protein Ku interacts at the cell surface with metalloproteinase 9.

L3 ANSWER 42 OF 157 MEDLINE on STN

TI Enhanced action of a BTB/POZ domain protein on the expression of hsp90alpha gene in heat shock.

L3 ANSWER 43 OF 157 MEDLINE on STN

TI Characterization of hnRNP K protein-RNA interactions.

L3 ANSWER 44 OF 157 MEDLINE on STN

TI Ca2+-selective transient receptor potential V channel architecture and function require a specific ankyrin repeat.

L3 ANSWER 45 OF 157 MEDLINE on STN

TI Antisense phenotypes reveal a role for SHY, a pollen-specific leucine-rich repeat protein, in pollen tube growth.

L3 ANSWER 46 OF 157 MEDLINE on STN

TI KAI1 COOH-terminal interacting tetraspanin (KITENIN), a member of the tetraspanin family, interacts with KAI1, a tumor metastasis suppressor, and enhances metastasis of cancer.

L3 ANSWER 47 OF 157 MEDLINE on STN

TI Tim50, a component of the mitochondrial translocator, regulates mitochondrial integrity and cell death.

L3 ANSWER 48 OF 157 MEDLINE on STN

TI Molecular analysis of the interaction between palladin and alpha-actinin.

L3 ANSWER 49 OF 157 MEDLINE on STN

TI Mutational analysis of different regions in the coxsackievirus 2B protein: requirements for homo-multimerization, membrane permeabilization, subcellular localization, and virus replication.

L3 ANSWER 50 OF 157 MEDLINE on STN

TI Protein phosphatase 5 is a negative regulator of estrogen receptor-mediated transcription.

=> d kwic 13 32

L3 ANSWER 32 OF 157 MEDLINE on STN

AB . . . on the novel and specific interaction of HIF-2alpha, but not HIF-1alpha, with the NF-kappaB essential modulator (NEMO) using immunoprecipitation, mammalian two-hybrid, and in vitro protein interaction assays. Reporter gene assays demonstrate that this interaction specifically enhances normoxic HIF-2alpha transcriptional activity, independently. . .

CT . . . Protein

*Gene Expression Regulation

Genes, Reporter
 Humans
 Hypoxia-Inducible Factor 1, alpha Subunit
 I-kappa B Kinase
 Mice
 Nuclear Proteins: ME, metabolism
 Oligonucleotides, Antisense: GE, genetics
 Oligonucleotides, Antisense: ME, metabolism
 Protein-Serine-Threonine Kinases: GE, genetics
 *Protein-Serine-Threonine Kinases: ME, metabolism
 Recombinant Fusion Proteins: GE, genetics
 Recombinant Fusion Proteins: . . . Signal Transduction: PH, physiology
 Trans-Activators: GE, genetics
 *Trans-Activators: ME, metabolism
 Transcription Factors: GE, genetics
 Transcription Factors: ME, metabolism
 Transcription, Genetic
 Two-Hybrid System Techniques
 CN. . . Factors); 0 (Ep300 protein, mouse); 0 (HIF1A protein, human); 0
 (Hypoxia-Inducible Factor 1, alpha Subunit); 0 (Nuclear Proteins); 0
 (Oligonucleotides, Antisense); 0 (Recombinant Fusion Proteins);
 0 (Trans-Activators); 0 (Transcription Factors); 0 (endothelial PAS
 domain-containing protein 1); EC 2.3.1.48 (E1A-Associated p300 Protein);.
 . .

=> s mammalian two hybrid
 165115 MAMMALIAN
 2276073 TWO

66175 HYBRID
 L6 435 MAMMALIAN TWO HYBRID
 (MAMMALIAN(W)TWO(W)HYBRID)

=> s l6 and antisense
 26970 ANTISENSE
 L7 9 L6 AND ANTISENSE

=> d 1-9 ab

L7 ANSWER 1 OF 9 MEDLINE on STN

AB The hypoxia-inducible factors 1alpha (HIF-1alpha) and 2alpha (HIF-2alpha) are key regulators of the transcriptional response to low oxygen and are closely related in domain architecture, DNA binding, and activation mechanisms. Despite these similarities, targeted disruption of the HIF-1alpha genes in mice results in distinctly different phenotypes demonstrating nonredundancy of function, although the underlying mechanisms remain unclear. Here we report on the novel and specific interaction of HIF-2alpha, but not HIF-1alpha, with the NF-kappaB essential modulator (NEMO) using immunoprecipitation, mammalian two-hybrid, and in vitro protein interaction assays. Reporter gene assays demonstrate that this interaction specifically enhances normoxic HIF-2alpha transcriptional activity, independently of the HIF-2alpha transactivation domain, consistent with a model by which NEMO aids CBP/p300 recruitment to HIF-2alpha. In contrast, HIF-2alpha overexpression does not alter NF-kappaB signaling, suggesting that the functional consequence of the HIF-2alpha/NEMO interaction is limited to the HIF pathway. The specificity of NEMO for HIF-2alpha represents one of the few known differential protein-protein interactions between the HIF-alpha proteins, which has important implications for the activity of HIF-2alpha and is also the first postulated NF-kappaB-independent role for NEMO.

L7 ANSWER 2 OF 9 MEDLINE on STN

AB Estrogen receptors (ERs) are transcription factors that can be modulated by both estrogen-dependent and growth factor-dependent phosphorylation. A yeast two-hybrid screening identified a serine/threonine protein phosphatase (PP5) as an interactant of ERbeta (1-481), a dominant negative ERbeta mutant. Glutathione S-transferase pull-down assays, mammalian two-hybrid assays, and immunoprecipitation studies showed that PP5 directly binds to both ERalpha and ERbeta via its tetratricopeptide repeat domain. E domains of ERalpha and ERbeta, without containing activation domain core regions in transcription activation function 2, were required for the binding to PP5. In ERalpha-positive breast cancer MCF7 cells, estrogen- and epidermal growth factor-dependent phosphorylation of ERalpha on serine residue 118, a major phosphorylation site of the receptor, was reduced by expressing PP5 but enhanced by PP5 antisense oligonucleotide. Estrogen-induced transcriptional activities of both ERalpha and ERbeta and mRNA expression of estrogen-responsive genes, including pS2, c-myc, and cyclin D1, were suppressed by PP5 but enhanced by PP5 antisense oligonucleotide. A truncated PP5 mutant consisting only of its tetratricopeptide repeat domain acted as a dominant negative PP5 that enhanced serine residue 118 phosphorylation of ERalpha and transactivations by ERalpha and ERbeta. We present the first evidence that PP5 functions as an inhibitory regulator of ER phosphorylation and transcriptional activation in vivo.

L7 ANSWER 3 OF 9 MEDLINE on STN

AB cAMP-dependent mechanisms regulate the steroidogenic acute regulatory (StAR) protein even though its promoter lacks a consensus cAMP response-element (CRE, TGACGTCA). Transcriptional regulation of the StAR gene has been demonstrated to involve combinations of DNA sequences that provide recognition motifs for sequence-specific transcription factors. We recently identified and characterized three canonical 5'-CRE half-sites within the cAMP-responsive region (-151/-1 bp) of the mouse StAR gene. Among these CRE elements, the CRE2 half-site is analogous (TGACGTGA) to an activator protein-1 (AP-1) sequence [TGA(C/G)TCA]; therefore, the role of the AP-1 transcription factor was explored in StAR gene transcription. Mutation in the AP-1 element demonstrated an approximately 50% decrease in StAR reporter activity. Using EMSA, oligonucleotide probes containing an AP-1 binding site were found to specifically bind to nuclear proteins obtained from mouse MA-10 Leydig and Y-1 adrenocortical tumor cells. The integrity of the sequence-specific AP-1 element in StAR gene transcription was assessed using the AP-1 family members, Fos (c-Fos, Fra-1, Fra-2, and Fos B) and Jun (c-Jun, Jun B, and Jun D), which demonstrated the involvement of Fos and Jun in StAR gene transcription to varying degrees. Disruption of the AP-1 binding site reversed the transcriptional responses seen with Fos and Jun. EMSA studies utilizing antibodies specific to Fos and Jun demonstrated the involvement of several AP-1 family proteins. Functional assessment of Fos and Jun was further demonstrated by transfecting antisense c-Fos, Fra-1, and dominant negative forms of Fos (A-Fos) and c-Jun (TAM-67) into MA-10 cells, which significantly ($P < 0.01$) repressed transcription of the StAR gene. Mutation of the AP-1 site in combination with mutations in other cis-elements resulted in a further decrease of StAR promoter activity, demonstrating a functional cooperation between these factors. Mammalian two-hybrid assays revealed high-affinity protein-protein interactions between c-Fos and c-Jun with steroidogenic factor 1, GATA-4, and CCAAT/enhancer binding protein-beta. These findings demonstrate that Fos and Jun can bind to the TGACGTGA element in the StAR promoter and provide novel insights into the mechanisms regulating StAR gene transcription.

L7 ANSWER 4 OF 9 MEDLINE on STN

AB Although acyl-CoA-binding protein (ACBP) has been detected in the nucleus,

the physiological significance of this observation is unknown. As shown herein for the first time, ACBP in the nucleus physically and functionally interacted with hepatocyte nuclear factor-4 alpha (HNF-4 alpha), a nuclear binding protein that regulates transcription of genes involved in both lipid and glucose metabolism. Five lines of evidence showed that ACBP bound HNF-4 alpha in vitro and in the nucleus of intact cells. (i) ACBP interaction with HNF-4 alpha elicited significant changes in secondary structure. (ii) ACBP and HNF-4 alpha were coimmunoprecipitated by antibodies to each protein. (iii) Double immunolabeling and laser scanning confocal microscopy (LSCM) of rat hepatoma cells and transfected COS-7 cells significantly colocalized ACBP and HNF-4 alpha within the nucleus and in the perinuclear region close to the nuclear membrane. (iv) LSCM fluorescence resonance energy transfer determined an intermolecular distance of 53 Å between ACBP and HNF-4 alpha in rat hepatoma cell nuclei. (v) Immunogold electron microscopy detected ACBP within 43 Å of HNF-4 alpha. These interactions were specific since ACBP did not interact with Sp1 or glucocorticoid receptor in these assays. The functional significance of ACBP interaction with HNF-4 alpha was evidenced by mammalian two-hybrid and transactivation assays. ACBP overexpression in COS-7 or rat hepatoma cells enhanced transactivation of an HNF-4 alpha-dependent luciferase reporter plasmid by 3.2- and 1.6-fold, respectively. In contrast, cotransfection with antisense ACBP expression vector inhibited transactivation. LSCM of the individual triple fluorescent-labeled (HNF-4 alpha, ACBP, and luciferase) rat hepatoma cells showed a high correlation (r^2 , 0.936) between the level of luciferase and the level of ACBP expression. In summary, ACBP physically interacted with HNF-4 alpha in vitro and in intact cells, although ACBP expression level directly correlated with HNF-4 alpha-mediated transactivation in individual cells.

L7 ANSWER 5 OF 9 MEDLINE on STN

AB Androgen receptor (AR) belongs to the steroid hormone nuclear receptor superfamily. It functions as an androgen-dependent transcriptional factor that regulates genes for cell proliferation and differentiation. Caveolin is a principal component of caveolae membranes serving as a scaffold protein of many signal transduction pathways. Recent results correlate caveolin-1 expression with androgen sensitivity in murine prostate cancer. Furthermore, immunohistochemical staining of patient specimens suggests that caveolin expression may be an independent predictor of progression of prostate cancer. In this study, we investigate the potential interactions between AR signaling and caveolin-1 and demonstrate that overexpression of caveolin-1 potentiates ligand-dependent AR activation. Conversely, down-regulation of caveolin-1 expression by a caveolin-1 antisense expression construct can down-regulate ligand-dependent AR activation. Association between these two molecules is also demonstrated by co-localization of AR with caveolin-rich, low-density membrane fractions isolated by an equilibrium sucrose gradient centrifugation method. Co-immunoprecipitation and glutathione S-transferase fusion protein pull-down experiments demonstrate that interaction between AR and caveolin-1 is an androgen-dependent process, offering further evidence for a physiological role of this interaction. Using a mammalian two-hybrid assay system, we determine that the NH(2) terminus region of caveolin-1 is responsible for the interaction with both the NH(2)-terminal domain and the ligand-binding domain of AR.

L7 ANSWER 6 OF 9 MEDLINE on STN

AB Nuclear receptor-mediated activation of transcription involves coactivation by cofactors collectively denoted the steroid receptor coactivators (SRCs). The process also involves the subsequent recruitment of p300/CBP and PCAF to a complex that synergistically regulates transcription and remodels the chromatin. PCAF and p300 have also been demonstrated to function as critical coactivators for the muscle-specific

basic helix-loop-helix (bHLH) protein MyoD during myogenic commitment. Skeletal muscle differentiation and the activation of muscle-specific gene expression is dependent on the concerted action of another bHLH factor, myogenin, and the MADS protein, MEF-2, which function in a cooperative manner. We examined the functional role of one SRC, GRIP-1, in muscle differentiation, an ideal paradigm for the analysis of the determinative events that govern the cell's decision to divide or differentiate. We observed that the mRNA encoding GRIP-1 is expressed in proliferating myoblasts and post-mitotic differentiated myotubes, and that protein levels increase during differentiation. Exogenous/ectopic expression studies with GRIP-1 sense and antisense vectors in myogenic C2C12 cells demonstrated that this SRC is necessary for (1) induction/activation of myogenin, MEF-2, and the crucial cell cycle regulator, p21, and (2) contractile protein expression and myotube formation. Furthermore, we demonstrate that the SRC GRIP-1 coactivates MEF-2C-mediated transcription. GRIP-1 also coactivates the synergistic transactivation of E box-dependent transcription by myogenin and MEF-2C. GST-pulldowns, mammalian two-hybrid analysis, and immunoprecipitation demonstrate that the mechanism involves direct interactions between MEF-2C and GRIP-1 and is associated with the ability of the SRC to interact with the MADS domain of MEF-2C. The HLH region of myogenin mediates the direct interaction of myogenin and GRIP-1. Interestingly, interaction with myogenic factors is mediated by two regions of GRIP-1, an amino-terminal bHLH-PAS region and the carboxy-terminal region between amino acids 1158 and 1423 (which encodes an activation domain, has HAT activity, and interacts with the coactivator-associated arginine methyltransferase). This work demonstrates that GRIP-1 potentiates skeletal muscle differentiation by acting as a critical coactivator for MEF-2C-mediated transactivation and is the first study to ascribe a function to the amino-terminal bHLH-PAS region of SRCs.

L7 ANSWER 7 OF 9 MEDLINE on STN

AB Hypoxia-inducible factor 1alpha (HIF-1alpha) and the HIF-like factor (HLF) are two highly related basic Helix-Loop-Helix/Per-Arnt-Sim (bHLH/PAS) homology transcription factors that undergo dramatically increased function at low oxygen levels. Despite strong similarities in their activation mechanisms (e.g. they both undergo rapid hypoxia-induced protein stabilization, bind identical target DNA sequences, and induce synthetic reporter genes to similar degrees), they are both essential for embryo survival via distinct functions during vascularization (HIF-1alpha) or catecholamine production (HLF). It is currently unknown how such specificity of action is achieved. We report here that DNA binding by HLF, but not by HIF-1alpha, is dependent upon reducing redox conditions. In vitro DNA binding and mammalian two-hybrid assays showed that a unique cysteine in the DNA-binding basic region of HLF is a target for the reducing activity of redox factor Ref-1. Although the N-terminal DNA-binding domain of HIF-1alpha can function in the absence of Ref-1, we found that the C-terminal region containing the transactivation domain requires Ref-1 for full activity. Our data reveal that the hypoxia-inducible factors are subject to complex redox control mechanisms that can target discrete regions of the proteins and are the first to establish a discriminating control mechanism for differential regulation of HIF-1alpha and HLF activity.

L7 ANSWER 8 OF 9 MEDLINE on STN

AB Proteins in the E2A family of basic helix-loop-helix transcription factors are important in a wide spectrum of physiologic processes as diverse as neurogenesis, myogenesis, lymphopoiesis, and sex determination. In the pancreatic beta cell, E2A proteins, in combination with tissue-specific transcription factors, regulate expression of the insulin gene and other genes critical for beta-cell function. By yeast two-hybrid screening of a

cDNA library prepared from rat insulinoma (INS-1) cells, we identified a novel protein, Bridge-1, that interacts with E2A proteins and functions as a coactivator of gene transcription mediated by E12 and E47. Bridge-1 contains a PDZ-like domain, a domain known to be involved in protein-protein interactions. Bridge-1 is highly expressed in pancreatic islets and islet cell lines and the expression pattern is primarily nuclear. The interaction of Bridge-1 with E2A proteins is further demonstrated by coimmunoprecipitation of in vitro-translated Bridge-1 with E12 or E47 and by mammalian two-hybrid studies. The PDZ-like domain of Bridge-1 is required for interaction with the carboxy terminus of E12. In both yeast and mammalian two-hybrid interaction studies, Bridge-1 mutants lacking an intact PDZ-like domain interact poorly with E12. An E12 mutant (E12DeltaC) lacking the carboxy-terminal nine amino acids shows impaired interaction with Bridge-1. Bridge-1 has direct transactivational activity, since a Gal4 DNA-binding domain-Bridge-1 fusion protein transactivates a Gal4CAT reporter. Bridge-1 also functions as a coactivator by enhancing E12- or E47-mediated activation of a rat insulin I gene minienhancer promoter-reporter construct in transient-transfection experiments. Substitution of the mutant E12DeltaC for E12 reduces the coactivation of the rat insulin I minienhancer by Bridge-1. Inactivation of endogenous Bridge-1 in insulinoma (INS-1) cells by expression of a Bridge-1 antisense RNA diminishes rat insulin I promoter activity. Bridge-1, by utilizing its PDZ-like domain to interact with E12, may provide a new mechanism for the coactivation and regulation of transcription of the insulin gene.

L7 ANSWER 9 OF 9 MEDLINE on STN

AB The glucocorticoid receptor (GR) is considered to belong to a class of transcription factors, the functions of which are exposed to redox regulation. We have recently demonstrated that thioredoxin (TRX), a cellular reducing catalyst, plays an important role in restoration of GR function in vivo under oxidative conditions. Although both the ligand binding domain and other domains of the GR have been suggested to be modulated by TRX, the molecular mechanism of the interaction is largely unknown. In the present study, we hypothesized that the DNA binding domain (DBD) of the GR, which is highly conserved among the nuclear receptors, is also responsible for communication with TRX in vivo. Mammalian two-hybrid assay and glutathione S-transferase pull-down assay revealed the direct association between TRX and the GR DBD. Moreover, analysis of subcellular localization of TRX and the chimeric protein harboring herpes simplex viral protein 16 transactivation domain and the GR DBD indicated that the interaction might take place in the nucleus under oxidative conditions. Together these observations indicate that TRX, via a direct association with the conserved DBD motif, may represent a key mediator operating in interplay between cellular redox signaling and nuclear receptor-mediated signal transduction.

=> antisense vector

ANTISENSE IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s antisense vector

26970 ANTISENSE

75128 VECTOR

L8 86 ANTISENSE VECTOR

(ANTISENSE(W)VECTOR)

=> s l8 and target
252836 TARGET
L9 7 L8 AND TARGET
=> d l-7 ab

L9 ANSWER 1 OF 7 MEDLINE on STN

AB Increased EGFR (epidermal growth factor receptor) expression has been reported in many types of human cancer and its levels are positively associated with advanced cancers. Recently, upregulation of Id-1 (inhibitor of differentiation or DNA binding) protein was found in over 70% of ovarian cancer samples and correlated with poor survival of ovarian cancer patients. However, the molecular mechanisms responsible for the role of Id-1 in ovarian cancer are not clear. The aim of this study was to investigate the effect of Id-1 on ovarian cancer proliferation and its association with the EGFR pathway. To achieve this, we transfected an Id-1 expression vector into three ovarian cancer cell lines and examined cell proliferation rate by flow cytometry and bromodeoxyuridine staining. We found that ectopic Id-1 expression led to increased cell proliferation demonstrated by increased BrdU incorporation rate and S-phase fraction. The Id-1-induced cell growth was associated with upregulation of EGFR at both transcriptional and protein levels. In contrast, inactivation of Id-1 through transfection of an Id-1 antisense vector resulted in downregulation of EGFR. Our results indicate that increased Id-1 in ovarian cancer cells may promote cancer cell proliferation through upregulation of EGFR. Our findings also implicate that Id-1 may be a potential target for the development of novel strategies in the treatment of ovarian cancer.

L9 ANSWER 2 OF 7 MEDLINE on STN

AB Mad proteins (Mad1, Mx1, Mad3, Mad4, Mnt/Rox) are biochemical and biological antagonists of c-Myc oncoprotein. Mad-Max dimers repress the transcription of the same target genes activated by Myc-Max dimers. Despite the critical role of Max and Mad proteins as modulators of c-Myc functions, there are no comparative data on their regulation in vivo. We carried out a systematic analysis of c-myc, max, and mad family expression in a model of synchronized cell proliferation in vivo in adult tissues, that is, rat hepatocytes after partial hepatectomy. We confirmed the previously reported early peak of c-myc expression after hepatectomy but we show that it did not correlate with hepatocyte proliferation as it also occurred in sham-operated animals as a result of surgical stresses. A second peak of c-myc expression was observed later, at the time of the wave of DNA synthesis. No such expression was detected in sham-operated rat quiescent hepatocytes. max expression increased around 4-16 h after hepatectomy, before the peaks of c-myc and DNA synthesis. mx1 and mad4 were slightly downregulated during liver regeneration. mnt/rox expression did not change. These expression patterns suggest a role of Myc-Max for efficient mitogenic response of hepatocytes. We also analyzed the effects of Myc and Max ectopic expression on the clonogenic growth of the rat hepatoma cells. Expression of c-Myc and Max increased clonogenic growth, whereas the reduction of c-Myc levels by an antisense vector decreased growth. The results suggest nonredundant roles for mad genes in hepatocyte proliferation and point to c-Myc as a putative target for anticancer therapy of liver cancer.
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L9 ANSWER 3 OF 7 MEDLINE on STN

AB The effects of transforming growth factor-alpha (TGF-alpha) on cell growth were studied in human glioma U251 cells transfected with antisense TGF-alpha vectors (pcDNA1.neo). Several antisense clones showed a marked decrease in growth rate in serum-free medium but not in medium containing 10% FBS, compared with those of parental cells and clones from sense or

vector transfectants. Antisense clones also produced fewer and smaller colonies in anchorage-independent growth assays. Moreover, there was a reduction in TGF-alpha expression in these antisense clones at both the protein and mRNA levels, as determined by enzyme linked immuno-sorbent assay and reverse transcriptase polymerase chain reaction analysis. A U251 clone transfected by TGF-alpha antisense in a different vector (pMT/Ep) also showed a marked suppression in cell growth and TGF-alpha mRNA level. Finally, transfected clones with either vector system, showed decreased tumorigenicity in nude mice. In summary, a strong correlation between the inhibition of glioma cell growth and TGF-alpha expression was obtained from two different plasmid vectors, indicating that the expression of TGF-alpha could be specifically and effectively down-regulated by TGF-alpha antisense vector, which in turn led to growth inhibition. These studies suggests that TGF-alpha plays an essential role in controlling human glioma cell proliferation and may serve as a potential target for treatment of malignant glioma.

L9 ANSWER 4 OF 7 MEDLINE on STN

AB Inflammatory cytokines play a critical role in the initiation and perpetuation of inflammation. Several cytokines are known to increase the production of arachidonic acid (AA) metabolites, which may mediate cytokine-induced acute and chronic inflammation. Although cytokines upregulate phospholipase A2 (PLA2) in several target cells, the contribution of individual PLA2 to cytokine-induced AA release and eicosanoid production remains unclear because of the existence of various forms of cellular PLA2. To examine the role of 85-kDa cytosolic PLA2 (cPLA2) in cytokine-induced AA release, a system was developed to inhibit the expression of cPLA2 in a human bronchial epithelial cell line (BEAS-2B cells) by antisense RNA. Cells stably expressing antisense cPLA2 exhibited decreased cPLA2 protein levels as well as decreased cPLA2 activity assayed in vitro. The effects of cytokines interferon-gamma (IFN-gamma), tumor necrosis factor-alpha (TNF-alpha), and interleukin-1 alpha (IL-1 alpha) on the release of prelabeled [3H]AA were then tested in cells stably transfected with vector alone as well as cells transfected with cPLA2 antisense plasmid. IFN-gamma (300 U/ml), TNF-alpha (20 ng/ml), and IL-1 alpha (20 ng/ml) all induced a significantly increased release of prelabeled [3H]AA after 15 min to 2 h of treatment in control cells, and their effects were significantly reduced in cells transfected with cPLA2 antisense vector. These results demonstrate a critical role of cPLA2 in inflammatory cytokine-induced AA metabolism.

L9 ANSWER 5 OF 7 MEDLINE on STN

AB Tumor cells undergo self-destruction when incubated with cytotoxic T-cells (CTL) consistent with the observation that suppression of target protein synthesis causes resistance to apoptosis. Resistance to CTL is also induced by stress, suggesting that pathways exist suppressing apoptosis. Here we examine whether stress induced lysis resistance to CTL and tumor necrosis factor alpha involves stress proteins GRP78 and GRP94. We show that inhibition of GRP78 synthesis by transfection of cells with grp78 antisense vector pRSV-78WO leads to inability to induce resistance to CTL or tumor necrosis factor alpha. Resistance induced in untransfected cells is reversible upon stress removal and correlates with GRP78 rephosphorylation, consistent with the notion that phosphorylated GRP78 is nonfunctional. The possibility that GRP78 plays a role in defense against CTL mediated apoptosis is supported by the finding that CTL but not CD4+ cells express a high level of unphosphorylated GRP78.

L9 ANSWER 6 OF 7 MEDLINE on STN

AB Murine CTL have seven serine proteases, known as granzymes, in their lytic granules. Despite considerable effort, convincing evidence that these

enzymes play an obligatory role in the lytic process has not been presented. To investigate the function of one of these proteases, granzyme A (GA), we utilized an antisense expression vector to lower the level of the enzyme in the cells. An expression vector containing antisense cDNA for GA and the gene for hygromycin B resistance was constructed and electroporated into the murine CTL line, ARL. Transfectants were selected based on resistance to hygromycin B, and a number of stable lines were developed. One of the antisense lines had greatly reduced levels of GA mRNA, when compared to the parental cells or to control lines transfected with the vector lacking the antisense DNA. The message levels for two other CTL granule proteins, granzyme B and perforin, were unaffected by the antisense vector. The amount of GA, as measured by enzymatic activity, was 3- to 10-fold lower in the transfectant. Most significantly, this line also consistently showed 50 to 70% lower ability to lyse nucleated target cells and to degrade their DNA. Furthermore, it exhibited 90 to 95% lower lytic activity to anti-CD3-coated SRBC. Conjugate formation with target cells, however, was normal. These data provide strong evidence that GA plays an important role in the cytolytic cycle, and that the quantity of enzyme is a limiting factor in these cytolytic cells.

L9 ANSWER 7 OF 7 MEDLINE on STN

AB An adeno-associated virus vector encoding an antisense RNA was used to transduce stable intracellular resistance to human immunodeficiency virus-1 (HIV-1) in human hemopoietic and non-hemopoietic cell lines. The antisense targets are present in all HIV-1 transcripts and include the TAR sequence, which is critical for transcription and virus replication, and the polyadenylation signal. Cell lines expressing antisense RNA showed up to 95 percent inhibition of gene expression directed by the HIV-1 long terminal repeat and greater than 99 percent reduction in infectious HIV-1 production, with no detectable cellular toxicity. Because of their efficient transcription and inability to recombine with HIV-1, adeno-associated virus vectors represent a promising form of anti-retroviral gene therapy.

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=> s fusion mrna and antisense
    155636 FUSION
    242858 MRNA
        149 FUSION MRNA
            (FUSION(W)MRNA)
        26970 ANTISENSE
L10      8 FUSION MRNA AND ANTISENSE
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=> d ab 1-8

L10 ANSWER 1 OF 8 MEDLINE on STN

AB For the treatment of chronic myelogenous leukemia (CML), attempts have been made to design various ribozyme motifs that can specifically recognize and cleave BCR-ABL fusion mRNAs. In the case of L6 BCR-ABL b2a2 mRNA, it is difficult to cleave the abnormal mRNA specifically because the mRNA includes no sequences that can be cleaved efficiently by conventional hammerhead ribozymes near the BCR-ABL junction. We recently succeeded in designing a novel maxizyme, which specifically cleaves BCR-ABL fusion mRNA, as a result of the formation of a dimeric structure [Kuwabara, T.; et al. Mol. Cell 1998, 2, 617-627; Tanabe, T.; et al. Nature 2000, 406, 473-474]. Specifically, we tailored the maxizyme with molecular switching function: the maxizyme splices a cleavable GUC site, but only when it appears within a strand of mRNA that possesses the abnormal splice junction. We demonstrated that this approach is generalizable [Tanabe, T.; et al. Biomacromolecules 2000, 1,

108-117]. All the maxizymes designed in the past functioned as a result of the formation of a dimeric structure. Questions have been asked whether a similar molecular switching might be possible within a single molecule when two monomer units of the maxizyme were connected via a linker sequence. We found that an analogous conformational change could not be induced within a single molecule when two maxizyme units were simply connected via a nonregulatable linker sequence. However, an active conformation was achieved by the introduction of an antisense modulator within the linker sequence that adjusted the overall structure to the correct form. Results of studies in cultured cells suggested that the desired conformational change could indeed be induced within the modified single-chained maxizyme and such a construct caused apoptosis only in leukemic cells with the Philadelphia chromosome.

L10 ANSWER 2 OF 8 MEDLINE on STN

AB In t(14;18)-positive lymphoma cells, bcl-2 is expressed from a fusion mRNA transcript containing the full coding sequence of bcl-2 and 3' immunoglobulin sequences. We reported previously that antisense oligodeoxyribonucleotides directed at the bcl-2 translational start site, as well as those targeted to immunoglobulin sequences 3' of the translocation breakpoint, down-regulate bcl-2 and inhibit growth of the t(14;18)-positive lymphoma line WSU-FSCCL in vitro. We have developed a scid mouse model with this human cell line and demonstrate that antisense oligodeoxyribonucleotides targeted to immunoglobulin c(mu) sequences down-regulate bcl-2 protein expression and induce apoptosis of WSU-FSCCL cells in vivo. This leads to prolonged survival of the mice. Targeting non-oncogenic sequences outside of the breakpoints of fusion transcripts may be a clinically useful therapeutic strategy.

L10 ANSWER 3 OF 8 MEDLINE on STN

AB A self-cleaving hammerhead ribozyme targeted to codon 47 in beta-amyloid precursor protein (betaAPP) mRNA was cloned as a eucaryotic transcription cassette into the 3' UTR of enhanced green fluorescence protein (EGFP) mRNA, producing a C-terminal fusion mRNA. CMV promoter-driven vectors bearing this construct or a mutationally inactive ribozyme construct were transiently transfected into human embryonic rhabdomyosarcoma (A-204) cells and their effects studied. Ribozyme self-cleavage in vivo was demonstrated by Northern blotting and the site of self-cleavage was delineated using site-specific deoxyligonucleotide probes and primer extension arrest. Using this ribozyme reporter we demonstrated that ribozyme expression correlated with lower betaAPP levels in the transfected cells. Control studies with the inactive ribozyme construct showed that both ribozyme cleavage and antisense mechanisms combined to produce the observed effect. Furthermore, production of truncated EGFP mRNA via ribozyme self-cleavage reduced EGFP-reporter expression compared to full-length EGFP control mRNAs, indicating that truncation affects the translatability of the reporter. This occurred because of a slight decrease in the stability of the fusion mRNA. The results of these studies suggest that self-cleaving ribozyme vectors may be an effective means of delivering and visualizing the expression of small active ribozymes in vivo.

L10 ANSWER 4 OF 8 MEDLINE on STN

AB Chronic myelogenous leukemia (CML) is associated with the presence of the Philadelphia chromosome, which is generated by the reciprocal translocation of chromosomes 9 and 22. In the case of L6 (b2a2) mRNA, it is difficult to cleave the abnormal mRNA specifically because the mRNA includes no sequences that can be cleaved efficiently by conventional hammerhead ribozymes near the BCR-ABL junction. We recently succeeded in designing a novel maxizyme, which specifically cleaves BCR-ABL fusion mRNA, as a result of the formation of a dimeric

structure. As an extension of our molecular engineering of maxizymes, as well as to improve their potential utility, we examined whether an analogous conformational change could be induced within a single molecule when two maxizymes were connected via a linker sequence. An active conformation was achieved by binding of the construct to the BCR-ABL junction in trans, with part of the linker sequence then acting as an antisense modulator in cis (within the complex) to adjust the overall structure. Results of studies in vitro in the presence of cetyltrimethylammonium bromide (CTAB) (but not in its absence) suggested that a certain kind of connected maxizyme (cMzB) might be able to undergo a desired conformational change and, indeed, studies in vivo confirmed this prediction. Therefore, we successfully created a fully functional, connected maxizyme and, moreover, we found that the activity and specificity of catalytic RNAs in vivo might be better estimated if their reactions are monitored in vitro in the presence of CTAB.

L10 ANSWER 5 OF 8 MEDLINE on STN

AB BACKGROUND: Chronic myelogenous leukemia (CML) results from chromosome 22 translocations (the Philadelphia chromosome) that creates BCR-ABL fusion genes, which encode two abnormal mRNAs (b3a2 and b2a2). Various attempts to design antisense oligonucleotides that specifically cleave abnormal L6 BCR-ABL fusion mRNA have not been successful. Because b2a2 mRNA cannot be effectively cleaved by hammerhead ribozymes near the BCR-ABL junction, it has proved very difficult to engineer specific cleavage of this chimeric mRNA. Nonspecific effects associated with using antisense molecules make the use of such antisense molecules questionable. RESULTS: The usefulness of DNA enzymes in specifically suppressing expression of L6 BCR-ABL mRNA in mammalian cells is demonstrated. Although the efficacy of DNA enzymes with natural linkages decreased 12 hours after transfection, partially modified DNA enzymes, with either phosphorothioate or 2'-O-methyl groups at both their 5' and 3' ends, remained active for much longer times in mammalian cells. Moreover, the DNA enzyme with only 2'-O-methyl modifications was also highly specific for abnormal mRNA. CONCLUSIONS: DNA enzymes with 2'-O-methyl modifications are potentially useful as gene-inactivating agents in the treatment of diseases such as CML. In contrast to conventional antisense DNAs, some of the DNA enzymes used in this study were highly specific and cleaved only abnormal BCR-ABL mRNA.

L10 ANSWER 6 OF 8 MEDLINE on STN

AB The mRNA encoding the human low density lipoprotein (LDL) receptor is transiently stabilized after phorbol ester treatment of HepG2 cells and has been shown to associate with components of the cytoskeleton in this cell line (G. M. Wilson, E. A. Roberts, and R. G. Deeley, J. Lipid Res. 1997. 38: 437-446). Using an episomal expression system, fragments of the 3' untranslated region (3'UTR) of LDL receptor mRNA were transcribed in fusion with the coding region of beta-globin mRNA in HepG2 cells. Analyses of the decay kinetics of these beta-globin-LDL receptor fusion mRNA deletion mutants showed that sequences in the proximal 3'UTR of LDL receptor mRNA including several AU-rich elements (AREs) were sufficient to confer short constitutive mRNA half-life in the heterologous system. Stabilization of LDL receptor mRNA in the presence of PMA required sequences in the distal 3'UTR, at or near three Alu-like repetitive elements. Furthermore, the 3'UTR of LDL receptor mRNA conferred cytoskeletal association on the otherwise unassociated beta-globin mRNA, by a mechanism involving at least two distinct RNA elements. Comparisons of decay kinetics and subcellular localization of endogenous LDL receptor mRNA and beta-globin-LDL receptor mRNA fusions in HepG2 cells have demonstrated that several cis-acting elements in the receptor 3'UTR contribute to post-transcriptional regulation of receptor expression, and provide further support for involvement of the

cytoskeleton in the regulation of LDL receptor mRNA turnover.

L10 ANSWER 7 OF 8 MEDLINE on STN

AB For the treatment of chronic myelogenous leukemia (CML), attempts have been made to design hammerhead ribozymes that can specifically cleave BCR-ABL fusion mRNA. In the case of L6 BCR-ABL fusion mRNA (b2a2 type), which has no effective cleavage sites for conventional hammerhead ribozymes near the BCR-ABL junction, it has proved very difficult to cleave the chimeric mRNA specifically. Several hammerhead ribozymes with relatively long junction-recognition sequences have poor substrate-specificity. Therefore, we explored the possibility of using DNA enzymes, that was newly selected by Santoro & Joyce and that can cleave RNA molecules with high activity, to cleave of L6 BCR-ABL fusion (b2a2) mRNA. By contrast to the results with the conventional ribozymes, the newly designed DNA enzymes, having higher flexibility for selection of cleavage sites, were able to cleave this chimeric RNA molecule specifically at sites close to the junction, without any cleavage of the normal ABL or BCR mRNA.

L10 ANSWER 8 OF 8 MEDLINE on STN

AB For therapeutic purposes, two chimeric DNA/RNA hammerhead ribozymes were synthesized to cleave AML1/MTG8, the t(8;21)-associated fusion mRNA of acute myeloid leukemia. One ribozyme, A/MRZ-1, recognizes the area adjacent to the fusion point between AML1 and MTG8, and cleaves six bases downstream from this point. The other, MRZ-1, recognizes the MTG8 sequence. Both ribozymes cleaved synthetic chimeric DNA/RNA substrates at theoretical sites. Neither cleaved AML1 RNA. A/MRZ-1 cleaved only AML1/MTG8 RNA, and MRZ-1 cleaved both AML1/MTG8 and MTG8 RNAs. The two ribozymes showed growth inhibition of an acute myeloid leukemia cell line carrying t(8;21), SKNO-1 cells. The same extent of growth inhibition was attained by antisense oligonucleotides against AML1/MTG8 RNA. The results suggest that the ribozyme has the potential to be developed as a useful agent for gene therapy, in particular for leukemia with t(8;21).

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---Logging off of STN---

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Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	23.53	23.74

STN INTERNATIONAL LOGOFF AT 10:30:04 ON 08 APR 2008

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptal805sxm

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

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prophetic substances
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spectra
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=> s universal and antisense

30141 UNIVERSAL

26970 ANTISENSE

L1 70 UNIVERSAL AND ANTISENSE

=> s l1 and gfp

13796 GFP

L2 1 L1 AND GFP

=> d

L2 ANSWER 1 OF 1 MEDLINE on STN

AN 2006753178 MEDLINE

DN PubMed ID: 17171761

TI Faithful activation of an extra-bright red fluorescent protein in "knock-in" Cre-reporter mice ideally suited for lineage tracing studies.

AU Luche Herve; Weber Odile; Nageswara Rao Tata; Blum Carmen; Fehling Hans Jorg

CS Institute of Immunology, University Clinics Ulm, Ulm, Germany.

SO European journal of immunology, (2007 Jan) Vol. 37, No. 1, pp. 43-53. Journal code: 1273201. ISSN: 0014-2980.

CY Germany; Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals

EM 200702

ED Entered STN: 28 Dec 2006

Last Updated on STN: 17 Feb 2007

Entered Medline: 16 Feb 2007

=> d ab

L2 ANSWER 1 OF 1 MEDLINE on STN

AB The considerable potential of Cre recombinase as a tool for in vivo fate-mapping studies depends on the availability of reliable reporter mice. By targeting a tandem-dimer red fluorescent protein (tdRFP) with advanced spectral and biological properties into the ubiquitously expressed ROSA26 locus of C57BL/6-ES cells, we have generated a novel inbred Cre-reporter mouse with several unique characteristics. We directly demonstrate the usefulness of our reporter strain in inter-crosses with a "universal Cre-deleter" strain and with mice expressing Cre recombinase in a T lineage-specific manner. Cytofluorometric and histological analyses illustrate: (i) non-toxicity and extraordinary brightness of the fluorescent reporter, allowing quantitative detection and purification of labeled cells with highest accuracy, (ii) reliable Cre-mediated activation of tdRFP from an

antisense orientation relative to ROSA26 transcription, effectively excluding "leaky" reporter expression, (iii) absence of gene expression variegation effects, (iv) quantitative detection of tdRFP-expressing cells even in paraformaldehyde-fixed tissue sections, and (v) full compatibility with GFP/YFP-based fluorescent markers in multicolor experiments. Taken together, the data show that our C57BL/6-inbred reporter mice are ideally suited for sophisticated lineage-tracing experiments requiring sensitive and quantitative detection/purification of live Cre-expressing cells and their progeny.

=> s l1 and vector

75128 VECTOR

L3 9 L1 AND VECTOR

=> s l1 and vectors

85979 VECTORS

L4 4 L1 AND VECTORS

=> s l3 or l4

L5 11 L3 OR L4

=> d ti 1-11

L5 ANSWER 1 OF 11 MEDLINE on STN

TI Thermodynamic instability of siRNA duplex is a prerequisite for dependable prediction of siRNA activities.

L5 ANSWER 2 OF 11 MEDLINE on STN

TI Synaptic adhesion molecule OBCAM; synaptogenesis and dynamic internalization.

L5 ANSWER 3 OF 11 MEDLINE on STN

TI Rice repetitive DNA sequence RRD3: a plant promoter and its application to RNA interference.

L5 ANSWER 4 OF 11 MEDLINE on STN

TI Selection-subtraction approach (SSA): a universal genetic screening technique that enables negative selection.

L5 ANSWER 5 OF 11 MEDLINE on STN

TI Functional genomics: the coming of age for Tetrahymena thermophila.

L5 ANSWER 6 OF 11 MEDLINE on STN

TI Neurons are protected from excitotoxic death by p53 antisense oligonucleotides delivered in anionic liposomes.

L5 ANSWER 7 OF 11 MEDLINE on STN

TI Progress in cancer gene therapy.

L5 ANSWER 8 OF 11 MEDLINE on STN

TI Drug delivery of antisense molecules to the brain for treatment of Alzheimer's disease and cerebral AIDS.

L5 ANSWER 9 OF 11 MEDLINE on STN

TI Gonadotropin alpha-subunit glycoprotein from channel catfish (Ictalurus punctatus) and its expression during hormone-induced ovulation.

L5 ANSWER 10 OF 11 MEDLINE on STN

TI Retroviral vector-mediated gene transfer of antisense cyclin G1 (CYCG1) inhibits proliferation of human osteogenic sarcoma cells.

L5 ANSWER 11 OF 11 MEDLINE on STN
TI Cloning, sequencing and expression of the Fab fragment of a monoclonal antibody to the herbicide atrazine.

=> d ab 4

L5 ANSWER 4 OF 11 MEDLINE on STN
AB Screening of expression libraries for bioactive clones that modulate the growth of mammalian cells has been limited largely to positive selections incapable of revealing growth suppressive or lethal genetic elements. We have developed a technique, selection-subtraction approach (SSA), that allows growth-modulating clones to be isolated based on alterations in their relative abundance in growing cell populations that have been transduced with an expression library. SSA utilizes tagged retroviral libraries in bacteriophage lambda vectors (retrophages). Nylon prints from retrophage libraries are used to determine the relative abundance of tags in library-transduced cells to identify biological activity of individual clones. Applications of SSA for gene discovery, target discovery, and generation of mutant proteins have been demonstrated, by using p53 and ataxia telangiectasia mutated (ATM) as models to isolate growth inhibitory proteins, peptides and antisense RNAs, and temperature-sensitive mutant proteins.

=> d his

(FILE 'HOME' ENTERED AT 17:09:53 ON 08 APR 2008)

FILE 'MEDLINE' ENTERED AT 17:10:17 ON 08 APR 2008

L1 70 S UNIVERSAL AND ANTISENSE
L2 1 S L1 AND GFP
L3 9 S L1 AND VECTOR
L4 4 S L1 AND VECTORS
L5 11 S L3 OR L4

=> s reporter and antisense

51488 REPORTER
26970 ANTISENSE

L6 1038 REPORTER AND ANTISENSE

=> s l6 and universal

30141 UNIVERSAL

L7 4 L6 AND UNIVERSAL

=> d ti 1-4

L7 ANSWER 1 OF 4 MEDLINE on STN
TI Faithful activation of an extra-bright red fluorescent protein in "knock-in" Cre-reporter mice ideally suited for lineage tracing studies.

L7 ANSWER 2 OF 4 MEDLINE on STN
TI Polysaccharide-oligoamine based conjugates for gene delivery.

L7 ANSWER 3 OF 4 MEDLINE on STN
TI Pathogen analysis and genetic predisposition testing using microelectronic arrays and isothermal amplification.

L7 ANSWER 4 OF 4 MEDLINE on STN
TI Ser/Thr protein phosphatase type 5 (PP5) is a negative regulator of

glucocorticoid receptor-mediated growth arrest.

=> s l6 and gfp
13796 GFP

L8 33 L6 AND GFP

=> d ti 1-33

L8 ANSWER 1 OF 33 MEDLINE on STN

TI Recombinant adeno-associated virus-mediated delivery of antisense angiotensin II receptor 1 gene attenuates hypertension development.

L8 ANSWER 2 OF 33 MEDLINE on STN

TI A comparison of methods for successful triggering of gene silencing in *Coprinus cinereus*.

L8 ANSWER 3 OF 33 MEDLINE on STN

TI Targeted gene correction with 5' acridine-oligonucleotide conjugates.

L8 ANSWER 4 OF 33 MEDLINE on STN

TI Faithful activation of an extra-bright red fluorescent protein in "knock-in" Cre-reporter mice ideally suited for lineage tracing studies.

L8 ANSWER 5 OF 33 MEDLINE on STN

TI Variable coordination of cotranscribed genes in *Escherichia coli* following antisense repression.

L8 ANSWER 6 OF 33 MEDLINE on STN

TI Erbium:YAG laser-mediated oligonucleotide and DNA delivery via the skin: an animal study.

L8 ANSWER 7 OF 33 MEDLINE on STN

TI Poly(propylacrylic acid) enhances cationic lipid-mediated delivery of antisense oligonucleotides.

L8 ANSWER 8 OF 33 MEDLINE on STN

TI Adenovirus-delivered antisense RNA and shRNA exhibit different silencing efficiencies for the endogenous transforming growth factor-beta (TGF-beta) type II receptor.

L8 ANSWER 9 OF 33 MEDLINE on STN

TI Inhibition of *Mycobacterium smegmatis* gene expression and growth using antisense peptide nucleic acids.

L8 ANSWER 10 OF 33 MEDLINE on STN

TI *Pseudomonas syringae* genes induced during colonization of leaf surfaces.

L8 ANSWER 11 OF 33 MEDLINE on STN

TI Applications of mRNA injections for analyzing cell lineage and asymmetric cell divisions during segmentation in the leech *Helobdella robusta*.

L8 ANSWER 12 OF 33 MEDLINE on STN

TI Zebrafish Hsp70 is required for embryonic lens formation.

L8 ANSWER 13 OF 33 MEDLINE on STN

TI Detection of RNA interference in nasopharyngeal carcinoma cell lines using reporter genes.

L8 ANSWER 14 OF 33 MEDLINE on STN

TI The solution synthesis of antisense oligonucleotide-peptide

conjugates directly linked via phosphoramidate bond by using a fragment coupling approach.

- L8 ANSWER 15 OF 33 MEDLINE on STN
TI Substrate requirements for let-7 function in the developing zebrafish embryo.
- L8 ANSWER 16 OF 33 MEDLINE on STN
TI Regulation of NF-kappaB/Rel by IkappaB is essential for ascidian notochord formation.
- L8 ANSWER 17 OF 33 MEDLINE on STN
TI Inhibition of Staphylococcus aureus gene expression and growth using antisense peptide nucleic acids.
- L8 ANSWER 18 OF 33 MEDLINE on STN
TI Identification of an amino acid residue on influenza C virus M1 protein responsible for formation of the cord-like structures of the virus.
- L8 ANSWER 19 OF 33 MEDLINE on STN
TI Antisense activity detection by inhibition of fluorescence resonance energy transfer.
- L8 ANSWER 20 OF 33 MEDLINE on STN
TI Anterior and posterior waves of cyclic her1 gene expression are differentially regulated in the presomitic mesoderm of zebrafish.
- L8 ANSWER 21 OF 33 MEDLINE on STN
TI Zebrafish as a novel experimental model for developmental toxicology.
- L8 ANSWER 22 OF 33 MEDLINE on STN
TI The ERV-9 LTR enhancer is not blocked by the HS5 insulator and synthesizes through the HS5 site non-coding, long RNAs that regulate LTR enhancer function.
- L8 ANSWER 23 OF 33 MEDLINE on STN
TI A pea antisense gene for the chloroplast stromal processing peptidase yields seedling lethals in Arabidopsis: survivors show defective GFP import in vivo.
- L8 ANSWER 24 OF 33 MEDLINE on STN
TI Antisense SNF1-related (SnRK1) protein kinase gene represses transient activity of an alpha-amylase (alpha-Amy2) gene promoter in cultured wheat embryos.
- L8 ANSWER 25 OF 33 MEDLINE on STN
TI Therapeutic liabilities of in vivo viral vector tropism: adeno-associated virus vectors, NMDAR1 antisense, and focal seizure sensitivity.
- L8 ANSWER 26 OF 33 MEDLINE on STN
TI Serine/threonine protein phosphatase 5 (PP5) participates in the regulation of glucocorticoid receptor nucleocytoplasmic shuttling.
- L8 ANSWER 27 OF 33 MEDLINE on STN
TI Vigilant vector: heart-specific promoter in an adeno-associated virus vector for cardioprotection.
- L8 ANSWER 28 OF 33 MEDLINE on STN
TI Targeting phospholamban by gene transfer in human heart failure.
- L8 ANSWER 29 OF 33 MEDLINE on STN
TI A transgenic Lef1/beta-catenin-dependent reporter is expressed

in spatially restricted domains throughout zebrafish development.

L8 ANSWER 30 OF 33 MEDLINE on STN

TI Comparison of morpholino based translational inhibition during the development of *Xenopus laevis* and *Xenopus tropicalis*.

L8 ANSWER 31 OF 33 MEDLINE on STN

TI Transcriptional control of lignin biosynthesis by tobacco LIM protein.

L8 ANSWER 32 OF 33 MEDLINE on STN

TI Reverse genetics system for Uukuniemi virus (Bunyaviridae): RNA polymerase I-catalyzed expression of chimeric viral RNAs.

L8 ANSWER 33 OF 33 MEDLINE on STN

TI Oligonucleotide scanning of native mRNAs in extracts predicts intracellular ribozyme efficiency: ribozyme-mediated reduction of the murine DNA methyltransferase.

=> d ab 13 19

L8 ANSWER 13 OF 33 MEDLINE on STN

AB BACKGROUND & OBJECTIVE: RNA interference (RNAi) technique is now widely used in studies of gene function, signal transduction pathway, and gene therapy because it can effectively and specifically inhibit gene expression. This study was designed to synthesize small interfering RNA (siRNA) by in vitro transcription, and construct retrovirus vectors to express small hairpin RNA (shRNA), detect RNAi in nasopharyngeal carcinoma cell lines, and to develop a RNAi technique platform. METHODS: siRNAs targeting green fluorescent protein (GFP) and luciferase (Luc) were synthesized by in vitro transcription, while shRNAs targeting GFP and Luc were constructed from pSUPER.retro. Cervical cancer cell line HeLa, nasopharyngeal carcinoma cell lines CNE1, CNE2, and 5-8F were co-transfected with siRNAs or shRNAs and reporter gene pEGFP-N1 or pGL3. The expression of GFP was detected by fluorescent microscopy and Western blot. The activity of luciferase was measured by Luciferase Enzyme Assay System. RESULTS: siRNA duplexes with 3' UU overhangs and shRNA specifically silenced GFP expression, while antisense RNA and siRNA without 3' UU overhangs did not trigger RNA interference of GFP. Quantitative luciferase activity analysis showed that siRNA inhibited Luc expression in HeLa, CNE1, CNE2, and 5-8F cell lines with inhibition rates of 91.43%, 78.01%, 90.30%, and 62.85%, respectively. Similarly, the inhibition rate was 78.22% when shRNA targeting Luc was co-transfected into HeLa cell line. CONCLUSIONS: Both siRNAs and shRNAs can induce RNAi. 3' UU overhangs of siRNA may play a role in RNAi. RNAi can be triggered in both nasopharyngeal carcinoma cell lines and HeLa cell line.

L8 ANSWER 19 OF 33 MEDLINE on STN

AB Use of antisense nucleic acids to modulate expression of particular genes is a promising approach to the therapy of human papillomavirus type 16 (HPV-16)-associated cervical cancer. Understandably, evaluation of the in vivo performance of synthetic antisense oligodeoxynucleotides (AS-ODNs) or ribozymes is of ultimate importance to development of effective antisense tools. Here we report the use of a bacterial reporter system based on the inhibition of fluorescence resonance energy transfer (FRET) to measure the interaction of AS-ODNs with HPV-16 target nt 410-445, using variants of the green fluorescent protein (GFP). An optimal FRET-producing pair was selected with GFP as the donor and yellow fluorescent protein (YFP) as the acceptor molecule. Hybridization of AS-ODNs with a chimeric mRNA containing the antisense target

site flanked by GFP variants resulted in the inhibition of the FRET effect. Use of different linkers suggested that the amino acid content of the linker has no significant effect on FRET effect. Antisense accessibility, tested by RNaseH assays with phosphorothioated target-specific and mutant AS-ODNs, suggested a specific effect on the chimaeric mRNA. FRET inhibition measurements correlated with the presence of truncated proteins confirming true antisense activity over the target. Therefore, FRET inhibition may be used for the direct measurement of AS-ODNs activity in vivo.
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=> d his

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FILE 'MEDLINE' ENTERED AT 17:10:17 ON 08 APR 2008

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L1      70 S UNIVERSAL AND ANTISENSE
L2      1 S L1 AND GFP
L3      9 S L1 AND VECTOR
L4      4 S L1 AND VECTORS
L5      11 S L3 OR L4
L6      1038 S REPORTER AND ANTISENSE
L7      4 S L6 AND UNIVERSAL
L8      33 S L6 AND GFP
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=> s universal targeting

30141 UNIVERSAL
66003 TARGETING

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L9      7 UNIVERSAL TARGETING
        (UNIVERSAL(W)TARGETING)
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=> d ti 1-7

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L9  ANSWER 1 OF 7      MEDLINE on STN
TI  Conditional genomic rearrangement by designed meiotic recombination using
    VDE (PI-SceI) in yeast.
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L9  ANSWER 2 OF 7      MEDLINE on STN
TI  Vitamin A supplementation in Tanzania: the impact of a change in
    programmatic delivery strategy on coverage.
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L9  ANSWER 3 OF 7      MEDLINE on STN
TI  Substrate specificity of rhomboid intramembrane proteases is governed by
    helix-breaking residues in the substrate transmembrane domain.
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L9  ANSWER 4 OF 7      MEDLINE on STN
TI  Use of a simple, general targeting vector for replacing the DNA of the
    heavy chain constant region in mouse hybridoma cells.
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L9  ANSWER 5 OF 7      MEDLINE on STN
TI  Expression of Nkx2-5-GFP bacterial artificial chromosome transgenic mice
    closely resembles endogenous Nkx2-5 gene activity.
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L9  ANSWER 6 OF 7      MEDLINE on STN
TI  Pseudomonas syringae Hrp type III secretion system and effector proteins.
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L9  ANSWER 7 OF 7      MEDLINE on STN
TI  Position of whole body stereotactic device among targeted interventions
    into human organism.
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FULL ESTIMATED COST	7.00	7.21

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=> s antisense and reporter
    47223 ANTISENSE
    54303 REPORTER
L10    1557 ANTISENSE AND REPORTER

=> s l10 and gfp
    17586 GFP
L11    82 L10 AND GFP

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12    82 DUP REM L11 (0 DUPLICATES REMOVED)

=> d l12 ti 1-82
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L12 ANSWER 1 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Cre-lox based methods for conditional RNA interference (RNAi)-mediated
gene knockdown and uses in gene therapy and in producing mutated animal

L12 ANSWER 2 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Cloning and application of apoptosis regulatory polypeptide using a yeast
expression system

L12 ANSWER 3 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Recombinant adeno-associated virus-mediated delivery of antisense
angiotensin II receptor 1 gene attenuates hypertension development

L12 ANSWER 4 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI MicroRNA sponges: competitive inhibitors of small RNAs in mammalian cells

L12 ANSWER 5 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Gene transfer into mammalian cells using targeted filamentous
bacteriophage
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L12 ANSWER 6 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI A comparison of methods for successful triggering of gene silencing in *Coprinus cinereus*

L12 ANSWER 7 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Application of FRET technology to the in vivo evaluation of therapeutic nucleic acids (ANTs)

L12 ANSWER 8 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Faithful activation of an extra-bright red fluorescent protein in "knock-in" Cre-reporter mice ideally suited for lineage tracing studies

L12 ANSWER 9 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Methods for production of influenza virus in animal cells using a T7 RNA polymerase-based genetic system

L12 ANSWER 10 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI *Mycobacterium smegmatis* whmD and its homologue *Mycobacterium tuberculosis* whiB2 are functionally equivalent

L12 ANSWER 11 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Using ColE1-derived RNA I for suppression of a bacterially encoded gene: implication for a novel plasmid addiction system

L12 ANSWER 12 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Better Gene Expression by (-)Gene than by (+)Gene in Phage Gene Delivery Systems

L12 ANSWER 13 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Erbium:YAG laser-mediated oligonucleotide and DNA delivery via the skin: An animal study

L12 ANSWER 14 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI 3'-poly(A) tail enhances siRNA activity against exogenous reporter genes in MCF-7 cells

L12 ANSWER 15 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Cellular dynamics of antisense oligonucleotides and short interfering RNAs

L12 ANSWER 16 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Adenovirus-Delivered Antisense RNA and shRNA Exhibit Different Silencing Efficiencies for the Endogenous Transforming Growth Factor- β (TGF- β) Type II Receptor

L12 ANSWER 17 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Variable coordination of cotranscribed genes in *Escherichia coli* following antisense repression

L12 ANSWER 18 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Oncolytic ICP34.5-null herpes simplex virus expressing antisense squamous cell carcinoma related oncogene SCCRO or its siRNA for cancer therapy enhancement

L12 ANSWER 19 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Vectors, mutant cells and animals, and methods for altering the Bmp1a and BMP interaction to control intestinal stem cell proliferation and differentiation, and for diagnostic marker detection

L12 ANSWER 20 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN

TI Tumor-targeting vector of histidylated oligolysine conjugated to a tumor-homing cyclic peptide

L12 ANSWER 21 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Pseudomonas syringae genes induced during colonization of leaf surfaces

L12 ANSWER 22 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Application of antisense oligonucleotides designed for screening green fluorescence protein mRNA accessible sites

L12 ANSWER 23 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Detection of RNA interference in nasopharyngeal carcinoma cell lines using reporter genes

L12 ANSWER 24 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Decrease in Inflammatory Hyperalgesia by Herpes Vector-Mediated Knockdown of Nav1.7 Sodium Channels in Primary Afferents

L12 ANSWER 25 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Inhibition of Mycobacterium smegmatis gene expression and growth using antisense peptide nucleic acids

L12 ANSWER 26 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Regulation of NF- κ B/Rel by I κ B is essential for ascidian notochord formation

L12 ANSWER 27 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Zebrafish Hsp70 is required for embryonic lens formation

L12 ANSWER 28 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Functional screening genetic elements or chemical modulators in host cells using a nucleic acid encoding a detectable indicator

L12 ANSWER 29 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Genome sequence of Taro bacilliform virus, including a constitutive promoter, and uses for transgene expression, diagnosis, and control of badnaviruses in plants

L12 ANSWER 30 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Plasmid vectors containing polyketide synthase gene as selection marker for transformation of filamentous fungi

L12 ANSWER 31 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Use of liver fatty acid binding L-FABP gene promoter for transgenic expression in germline zebrafish and as models for liver development and in screening for liver disease therapeutics

L12 ANSWER 32 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI High efficiency plant germline transformation system using recombinant nucleic acid comprising a matrix attachment region

L12 ANSWER 33 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Production of SIV vectors and stable retroviral helper cell lines for safe gene transfer to non-human primates

L12 ANSWER 34 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Substrate requirements for let-7 function in the developing zebrafish embryo

L12 ANSWER 35 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI The Solution Synthesis of Antisense Oligonucleotide-Peptide Conjugates Directly Linked via Phosphoramidate Bond by Using a Fragment

Coupling Approach

- L12 ANSWER 36 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Inhibition of *Staphylococcus aureus* gene expression and growth using antisense peptide nucleic acids
- L12 ANSWER 37 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Evaluation of RNA interference in developing porcine granulosa cells using fluorescence reporter genes
- L12 ANSWER 38 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Metafectene is superior to lipofectamine in the transfection of Gsa prostate cancer cells
- L12 ANSWER 39 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Antisense activity detection by inhibition of fluorescence resonance energy transfer
- L12 ANSWER 40 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Apoptosis induced by a hammerhead ribozyme targeting the template region of telomerase RNA in NPC CNE-2Z cell line
- L12 ANSWER 41 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Transgenic Hydra with stinging cells expressing genes encoding diagnostic, therapeutics or cosmetics for use as a drug delivery system in tissues
- L12 ANSWER 42 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Protein and nucleotide sequence of human A-N p73 molecules and uses thereof
- L12 ANSWER 43 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Targeted methods of drug screening using co-culture methods
- L12 ANSWER 44 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI The ERV-9 LTR enhancer is not blocked by the HS5 insulator and synthesizes through the HS5 site non-coding, long RNAs that regulate LTR enhancer function
- L12 ANSWER 45 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Specific gene silencing using small interfering RNAs in fish embryos
- L12 ANSWER 46 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Down-regulation of acetate pathway through antisense strategy in *Escherichia coli*: Improved foreign protein production
- L12 ANSWER 47 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI A pea antisense gene for the chloroplast stromal processing peptidase yields seedling lethals in Arabidopsis: survivors show defective GFP import in vivo
- L12 ANSWER 48 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Antisense SNF1-related (SnRK1) protein kinase gene represses transient activity of an α -amylase (α -Amy2) gene promoter in cultured wheat embryos
- L12 ANSWER 49 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Zebrafish as a novel experimental model for developmental toxicology
- L12 ANSWER 50 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
TI Investigation of the transcription in C6 cells trapped by a novel gene trap vector of the convergent type

L12 ANSWER 51 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Hyperlipemia, arteriosclerosis and hyperglycemia drug screening with mouse and human angiopoietin-related protein 3 and 4

L12 ANSWER 52 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Novel stable expression vectors for nuclear-anchoring protein and therapeutic protein or antigen as vaccines or for gene therapy

L12 ANSWER 53 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Method for spatial and temporal control of gene expression in zebrafish embryos using recombinant baculovirus, strategy involves use of reporter genes, and ubiquitous or inducible promoters

L12 ANSWER 54 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI The production of the male-only progeny in the mediterranean fruitfly *Ceratitis capitata* using *C. capitata* tra gene (Cetra) RNAi as a tool

L12 ANSWER 55 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Human cytidine deaminase gene as the selectable marker for genetically engineered cells and tissues and its use in gene therapy

L12 ANSWER 56 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Genetic constructs expressing stage-specific promoter-regulated aromatase gene blocker for controlling sex-ratio in animal populations

L12 ANSWER 57 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Ribozymes and antisense oligonucleotides for the inhibition of gene expression by calcium-activated chloride channel-1 gene CLCA-1

L12 ANSWER 58 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Large-scale simultaneous methods for identifying genes that are upstream regulators of other genes of interest

L12 ANSWER 59 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI DNA sequence of functional promoter for human chemokine receptor CCR5

L12 ANSWER 60 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Single stranded DNA-poly(N-isopropylacrylamide) conjugate for reversible antisense gene expression regulation

L12 ANSWER 61 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Induction of RNA interference in *Caenorhabditis elegans* by RNAs derived from plants exhibiting post-transcriptional gene silencing

L12 ANSWER 62 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Targeting phospholamban by gene transfer in human heart failure

L12 ANSWER 63 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Vigilant vector: heart-specific promoter in an adeno-associated virus vector for cardioprotection

L12 ANSWER 64 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Suppression of plant gene expression using geminivirus TGMV or CbLCV vectors

L12 ANSWER 65 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Short-root gene, promoter, and uses thereof

L12 ANSWER 66 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI ES cell-specific gene *ens-1* of chicken and its use in screening for modulators of ES cell differentiation

L12 ANSWER 67 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Hybrid adeno-retroviral vector: replication-defective adenoviral vector containing Moloney murine leukemia virus LTR flanked transgene, and its use in gene therapy

L12 ANSWER 68 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Targeted methods of drug screening using co-culture methods

L12 ANSWER 69 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Nuclear antisense effects of neutral, anionic and cationic oligonucleotide analogs

L12 ANSWER 70 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Reverse genetics system for Uukuniemi virus (Bunyaviridae): RNA polymerase I-catalyzed expression of chimeric viral RNAs

L12 ANSWER 71 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Transcriptional control of lignin biosynthesis by tobacco LIM protein

L12 ANSWER 72 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI An efficient plasmid-driven system for the generation of influenza virus-like particles for vaccine

L12 ANSWER 73 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Transcriptional regulation of lignin biosynthesis by tobacco LIM protein in transgenic woody plant

L12 ANSWER 74 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Pdx-1 knockdown reduces insulin promoter activity in zebrafish

L12 ANSWER 75 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Comparison of morpholino based translational inhibition during the development of *Xenopus laevis* and *Xenopus tropicalis*

L12 ANSWER 76 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Genetic synthetic lethality screen at the single gene level in cultured human cells

L12 ANSWER 77 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Novel human F-WD protein homolog MD6, recombinant expression, and uses in therapy and diagnosis

L12 ANSWER 78 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Methods for preventing cardiac hypertrophy and heart failure by inhibition of MEF2 transcription factor

L12 ANSWER 79 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Accelerated assessing of antisense RNA efficacy using a chimeric enhanced green fluorescent protein-antisense RNA-producing vector

L12 ANSWER 80 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Development of a rapid screening system to test antisense ODN modifications and carriers

L12 ANSWER 81 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Regulatory sequences conferring expression of a heterologous sequence in endothelial cells for therapeutic applications in vascular disease

L12 ANSWER 82 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN
 TI Proteins inhibiting Bax function and cDNAs encoding them and their use in regulation of apoptosis

=> d ab 79

L12 ANSWER 79 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN

AB The selection of suitable parts of a gene as antisense RNA sequences is largely a matter of trial and error and, as a consequence, a rather time-consuming process. In this study, the authors present a rapid and reproducible method to bypass this protracted procedure by using a chimeric enhanced green fluorescent protein (EGFP)-antisense RNA-producing vector. The combination of a reporter gene and antisense RNA allows easy measurement by flow cytometry of antisense RNA efficacy in successfully transfected cells shortly after transfection. Four chimeric EGFP-pl85c-erbB-2-antisense RNA vectors were constructed and transfected into the pl85c-erbB-2-overexpressing cell line SKBR3. Within 1 wk, the authors were able to estimate the inhibitory capacities of the different antisense RNA sequences used in this study. These results strongly suggest that a chimeric EGFP-antisense RNA vector is an appropriate tool to expedite the laboratory work and time in screening the efficacy of antisense RNA strategies.

=> d 79

L12 ANSWER 79 OF 82 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2000:812260 CAPLUS

DN 135:14827

TI Accelerated assessing of antisense RNA efficacy using a chimeric enhanced green fluorescent protein-antisense RNA-producing vector

AU Dittmar, Thomas; Schafer, Friederike; Brandt, Burkhard H.; Zanker, Kurt S.

CS Institute of Immunology, University of Witten/Herdecke, Germany

SO Antisense & Nucleic Acid Drug Development (2000), 10(5), 401-408
CODEN: ANADP5; ISSN: 1087-2906

PB Mary Ann Liebert, Inc.

DT Journal

LA English

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 15 4

YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE' - CONTINUE? (Y)/N:y

L5 ANSWER 4 OF 11 MEDLINE on STN

AN 2004311945 MEDLINE

DN PubMed ID: 15187233

TI Selection-subtraction approach (SSA): a universal genetic screening technique that enables negative selection.

AU Singhi Aatur D; Kondratov Roman V; Neznanov Nickolay; Chernov Mikhail V; Gudkov Andrei V

CS Department of Molecular Biology, Lerner Research Institute, Cleveland Clinic Foundation, Cleveland, OH 44195, USA.

NC CA098374 (United States NCI)

CA60730 (United States NCI)

SO Proceedings of the National Academy of Sciences of the United States of America, (2004 Jun 22) Vol. 101, No. 25, pp. 9327-32. Electronic Publication: 2004-06-08.

Journal code: 7505876. ISSN: 0027-8424.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LA English
FS Priority Journals
EM 200408
ED Entered STN: 25 Jun 2004
Last Updated on STN: 24 Aug 2004
Entered Medline: 23 Aug 2004

=> d 18 13 19

YOU HAVE REQUESTED DATA FROM FILE 'MEDLINE' - CONTINUE? (Y)/N:y

L8 ANSWER 13 OF 33 MEDLINE on STN
AN 2005126641 MEDLINE
DN PubMed ID: 15757546
TI Detection of RNA interference in nasopharyngeal carcinoma cell lines using reporter genes.
AU Yin Zhi-Hua; Ren Cai-Ping; Li Feng; Jiang Wei-Hong; Yang Xu-Yu; Feng Xiang-Ling; Yao Kai-Tai
CS Cancer Research Institute, Central South University, Changsha, Hunan, 410078, P.R.China.
SO Ai zheng = Aizheng = Chinese journal of cancer, (2005 Mar) Vol. 24, No. 3, pp. 371-5.
Journal code: 9424852. ISSN: 1000-467X.
CY China
DT (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA Chinese
FS Priority Journals
EM 200607
ED Entered STN: 11 Mar 2005
Last Updated on STN: 14 Dec 2005
Entered Medline: 5 Jul 2006

L8 ANSWER 19 OF 33 MEDLINE on STN
AN 2004200468 MEDLINE
DN PubMed ID: 15098208
TI Antisense activity detection by inhibition of fluorescence resonance energy transfer.
AU Benitez-Hess M L; DiPaolo J A; Alvarez-Salas L M
CS Laboratorio de Terapia Genica, Departamento de Genetica y Biologia Molecular, Centro de Investigacion y de Estudios Avanzados, Av. IPN 2508, Mexico D.F. 07360, Mexico.
SO Luminescence : the journal of biological and chemical luminescence, (2004 Mar-Apr) Vol. 19, No. 2, pp. 85-93.
Journal code: 100889025. ISSN: 1522-7235.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200411
ED Entered STN: 21 Apr 2004
Last Updated on STN: 13 Nov 2004

Entered Medline: 12 Nov 2004

=> FIL STNGUIDE		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.48	51.13
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-0.80

FILE 'STNGUIDE' ENTERED AT 17:24:24 ON 08 APR 2008
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Apr 4, 2008 (20080404/UP).

=> logoff y		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	1.20	52.33
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-0.80

STN INTERNATIONAL LOGOFF AT 17:36:28 ON 08 APR 2008

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1805sxm

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	AUG 15	CAOLD to be discontinued on December 31, 2008
NEWS	3	OCT 07	EPFULL enhanced with full implementation of EPC2000
NEWS	4	OCT 07	Multiple databases enhanced for more flexible patent number searching
NEWS	5	OCT 22	Current-awareness alert (SDI) setup and editing enhanced
NEWS	6	OCT 22	WPIDS, WPINDEX, and WPIX enhanced with Canadian PCT Applications
NEWS	7	OCT 24	CHEMLIST enhanced with intermediate list of pre-registered REACH substances
NEWS	8	NOV 21	CAS patent coverage to include exemplified prophetic substances identified in English-, French-, German-, and Japanese-language basic patents from 2004-present
NEWS	9	NOV 26	MARPAT enhanced with FSORT command

NEWS 10 NOV 26 MEDLINE year-end processing temporarily halts
 availability of new fully-indexed citations
 NEWS 11 NOV 26 CHEMSAFE now available on STN Easy
 NEWS 12 NOV 26 Two new SET commands increase convenience of STN
 searching
 NEWS 13 DEC 01 ChemPort single article sales feature unavailable
 NEWS 14 DEC 12 GBFULL now offers single source for full-text
 coverage of complete UK patent families
 NEWS 15 DEC 17 Fifty-one pharmaceutical ingredients added to PS
 NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
 AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.
 NEWS HOURS STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN Welcome Banner and News Items
 NEWS IPC8 For general information regarding STN implementation of IPC 8

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FILE 'HOME' ENTERED AT 17:28:15 ON 30 DEC 2008

```
=> file medline
COST IN U.S. DOLLARS                SINCE FILE      TOTAL
                                     ENTRY        SESSION
FULL ESTIMATED COST                0.42          0.42
```

FILE 'MEDLINE' ENTERED AT 17:29:28 ON 30 DEC 2008

FILE LAST UPDATED: 11 Dec 2008 (20081211/UP). FILE COVERS 1949 TO DATE.

MEDLINE and LMEDLINE have been updated with the 2009 Medical Subject
 Headings (MeSH) vocabulary and tree numbers from the U.S. National
 Library of Medicine (NLM). Additional information is available at:

http://www.nlm.nih.gov/pubs/techbull/nd08/nd08_medline_data_changes_2009.html

In preparation for the annual MEDLINE reload, NLM suspends delivery of
 regular updates (completed records), but continues to send "in-process"
 records. STN will resume regular MEDLINE updates the week of
 December 29, 2008.

This file contains CAS Registry Numbers for easy and accurate
 substance identification.

See HELP RANGE before carrying out any RANGE search.

MEDLINE Accession Numbers (ANs) for records from 1950-1977 have
 been converted from 8 to 10 digits. Searches using an 8 or 10 digit
 AN will retrieve the same record. The 10-digit ANs can be expanded,
 searched, and displayed in all records from 1949 to the present.

```
=> s gfp
L1      15182 GFP
```

```
=> s l1 and weak promoter
      83926 WEAK
      142976 PROMOTER
      174 WEAK PROMOTER
      (WEAK(W)PROMOTER)
L2      3 L1 AND WEAK PROMOTER
```

```
=> d 1-3 ab
```

```
L2 ANSWER 1 OF 3 MEDLINE on STN
AB We have formulated a numerical model that simulates the accumulation of
green fluorescent protein (GFP) in bacterial cells from a
generic promoter-gfp fusion. The model takes into account the
activity of the promoter, the time it takes GFP to mature into
its fluorescent form, the susceptibility of GFP to proteolytic
degradation, and the growth rate of the bacteria. From the model, we
derived a simple formula with which promoter activity can be inferred
easily and quantitatively from actual measurements of GFP
fluorescence in growing bacterial cultures. To test the usefulness of the
formula, we determined the activity of the LacI-repressible promoter
P(A1/04/03) in response to increasing concentrations of the inducer IPTG
(isopropyl-beta-D-thiogalactopyranoside) and were able to predict
cooperativity between the LacI repressors on each of the two operator
sites within P(A1/04/03). Aided by the model, we also quantified the
proteolytic degradation of GFP[AAV], GFP[ASV], and
GFP[LVA], which are popular variants of GFP with reduced
stability in bacteria. Best described by Michaelis-Menten kinetics, the
rate at which these variants were degraded was a function of the activity
of the promoter that drives their synthesis: a weak
promoter yielded proportionally less GFP fluorescence
than a strong one. The degree of disproportionality is species dependent:
the effect was more pronounced in Erwinia herbicola than in Escherichia
coli. This phenomenon has important implications for the interpretation
of fluorescence from bacterial reporters based on these GFP
variants. The model furthermore predicted a significant effect of growth
rate on the GFP content of individual bacteria, which if not
accounted for might lead to misinterpretation of GFP data. In
practice, our model will be helpful for prior testing of different
combinations of promoter-gfp fusions that best fit the
application of a particular bacterial reporter strain, and also for the
interpretation of actual GFP fluorescence data that are obtained
with that reporter.
```

```
L2 ANSWER 2 OF 3 MEDLINE on STN
AB The transfer of genes into primary murine adipocytes using an adenovirus
system has been developed. A recombinant adenovirus was constructed
(expressing green fluorescent protein [GFP] under the control of
the strong cytomegalovirus [CMV] promoter and a luciferase reporter gene
under the control of the weak adipocyte promoter keratinocyte
lipid-binding protein [KLBP/FABP5]) and incubated with primary adipocytes
from C57BL/6J mice. Analysis of infected cells by confocal microscopy
detected GFP expression in both the cytoplasm and nucleus of
adipocytes with a 64% efficiency of infection. To demonstrate the
applicability of this method in the study of gene regulation,
adenovirus-infected adipocytes exhibited significant levels of luciferase
activity even from a weak promoter. TPA treatment of
infected adipocytes increased luciferase activity, consistent with
previous studies indicating that the KLBP/FABP5 gene is up-regulated by
phorbol esters. These results provide an efficient, convenient, and
sensitive method to transiently infect primary murine adipocytes,
facilitating protein expression or permitting analysis of reporter gene
```

activity from both viral and endogenous promoters.

L2 ANSWER 3 OF 3 MEDLINE on STN

AB BACKGROUND. The green-fluorescent protein (GFP) of the jellyfish *Aequorea victoria* has recently been used as a universal reporter in a broad range of heterologous living cells and organisms. Although successful in some plant transient expression assays based on strong promoters or high copy number viral vectors, further improvement of expression efficiency and fluorescent intensity are required for GFP to be useful as a marker in intact plants. Here, we report that an extensively modified GFP is a versatile and sensitive reporter in a variety of living plant cells and in transgenic plants. RESULTS. We show that a re-engineered GFP gene sequence, with the favored codons of highly expressed human proteins, gives 20-fold higher GFP expression in maize leaf cells than the original jellyfish GFP sequence. When combined with a mutation in the chromophore, the replacement of the serine at position 65 with a threonine, the new GFP sequence gives more than 100-fold brighter fluorescent signals upon excitation with 490 nm (blue) light, and swifter chromophore formation. We also show that this modified GFP has a broad use in various transient expression systems, and allows the easy detection of weak promoter activity, visualization of protein targeting into the nucleus and various plastids, and analysis of signal transduction pathways in living single cells and in transgenic plants. CONCLUSIONS. The modified GFP is a simple and economical new tool for the direct visualization of promoter activities with a broad range of strength and cell specificity. It can be used to measure dynamic responses of signal transduction pathways, transfection efficiency, and subcellular localization of chimeric proteins, and should be suitable for many other applications in genetically modified living cells and tissues of higher plants. The data also suggest that the codon usage effect might be universal, allowing the design of recombinant proteins with high expression efficiency in evolutionarily distant species such as humans and maize.

```
=> s fluorescent protein
      211336 FLUORESCENT
      1864354 PROTEIN
L3      19699 FLUORESCENT PROTEIN
          (FLUORESCENT(W)PROTEIN)
```

```
=> s l3 and weak promoter
      83926 WEAK
      142976 PROMOTER
          174 WEAK PROMOTER
          (WEAK(W)PROMOTER)
L4      4 L3 AND WEAK PROMOTER
```

```
=> l4 not l2
L4 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).
```

```
=> s l4 not l2
L5      1 L4 NOT L2
```

```
=> d ab
```

L5 ANSWER 1 OF 1 MEDLINE on STN

AB Attempts to image reporter gene expression driven by weak promoters are

often hampered by the poor transcriptional activity of such promoters. Most tissue-specific promoters are weak compared with stronger but constitutively expressing viral promoters. In this study, we validated methods of enhancing the transcriptional activity of weak promoters using a Cre-loxP system in vitro and in vivo. We constructed a tester vector, pCTL, which carries a strong systemic cytomegalovirus enhancer/chicken beta-actin promoter (CAG), loxP-flanked CAT, and firefly luciferase (luc) cDNAs. Herpes simplex virus-thymidine kinase (HSV-tk) promoter was used as a weak and systemic promoter and ligated to Cre for construction of pTC. Luc activity was higher (about 10-fold enhancement) in co-transfected (with pCTL and pTC) than in singly (with HSV-tk promoter-driven luc expression vector pTL) transfected NIH3T3 cells. In vivo electroporation-mediated gene delivery of both pCTL and pTC into murine oviductal epithelium yielded results (about 16-fold enhancement) similar to those obtained with in vitro-transfected NIH3T3 cells. To evaluate tissue-specific enhancement of gene expression, podocyte (glomerular visceral epithelial cell)-specific nephrin promoter was ligated to the Cre gene or luc cDNA to create pNC and pNL, respectively. We achieved 2.4-fold improvement of luc gene expression in the mouse kidney in vivo when pCTL and pNC were co-transfected via the tail vein via the lipoplex method. The combination of a weak tissue-specific promoter with the Cre-loxP system could thus be used to enhance the strength of tissue-specific promoters in vitro and in vivo.

=> d 2 12

L2 ANSWER 2 OF 3 MEDLINE on STN
 AN 2000473140 MEDLINE
 DN PubMed ID: 10884289
 TI Adenovirus-mediated gene transfer in primary murine adipocytes.
 AU Hertzell A V; Sanders M A; Bernlohr D A
 CS Department of Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, St. Paul 55108, USA.
 NC 1 F32 DK 09599-01 (United States NIDDK)
 DK 53189 (United States NIDDK)
 SO Journal of lipid research, (2000 Jul) Vol. 41, No. 7, pp. 1082-6.
 Journal code: 0376606. ISSN: 0022-2275.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 (RESEARCH SUPPORT, NON-U.S. GOV'T)
 (RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
 LA English
 FS Priority Journals
 EM 200010
 ED Entered STN: 12 Oct 2000
 Last Updated on STN: 12 Oct 2000
 Entered Medline: 5 Oct 2000

=> FIL STINGUIDE

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	3.49	3.91

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=> logoff y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.60

4.51

STN INTERNATIONAL LOGOFF AT 17:40:20 ON 30 DEC 2008